50 CENTS

Textile World

FEBRUARY, 1955

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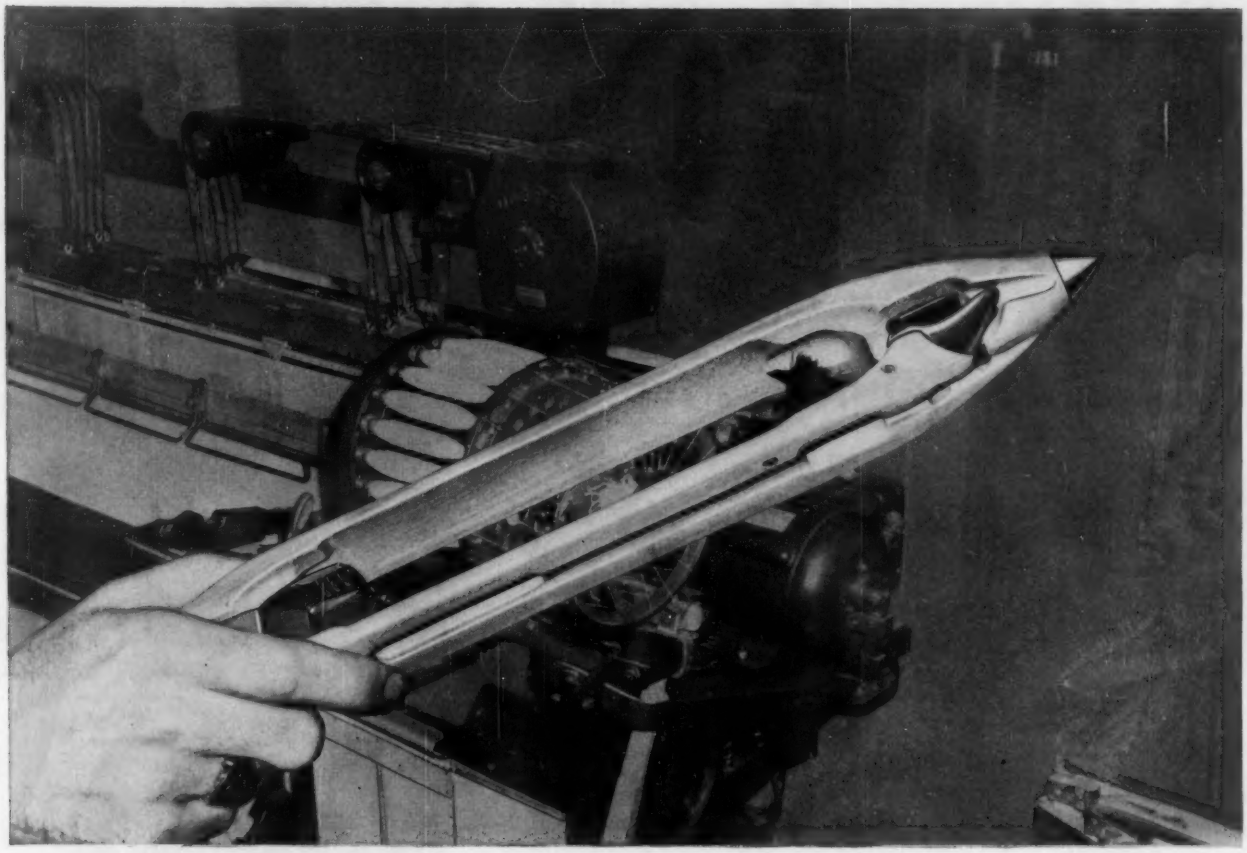

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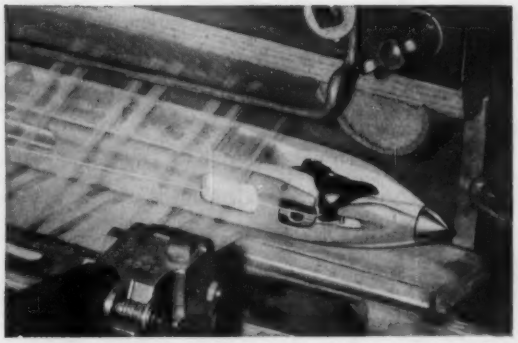

Strobolite photograph of Draper True Flight shuttle in action.

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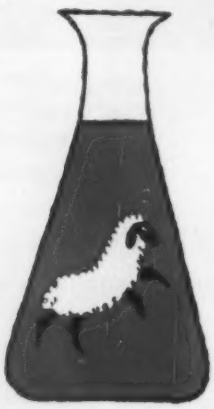

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Y					TOP SPINNING CREELS Were Lowered 5 Ins.	159	C	S	W

(*Advertisement*)

NEWS of the MONTH

Mill Developments

▶With the announcement that the copyright office would allow copyrights for textile reproductions of artistic designs, several textile manufacturers are reported ready to apply for copyrights.

▶Cone Mills has developed a woven-stripe corduroy that gives the effect of a satin stripe on corduroy. Three stripe variations in 12 colors are being produced in 41-in. widths. Price: 83¼¢ per yd.

▶Collins & Aikman Corp. has started production on foam-rubber-backed fabrics in its Roxboro, N. C., plant. Fabrics of other manufacturers will also be coated by the Alderfer process.

▶Nylon and rayon tire cord is being put through a tempering unit at the Gastonia plant of Firestone Tire & Rubber Co. The unit, as high as a five-story building and three times as long, stretches and gum-dips the cord in one continuous electronically controlled operation.

▶Berkshire Fine Spinning Associates and Hathaway Mfg. Co., the two large New England cotton mills, plan to merge. A new name will be selected.

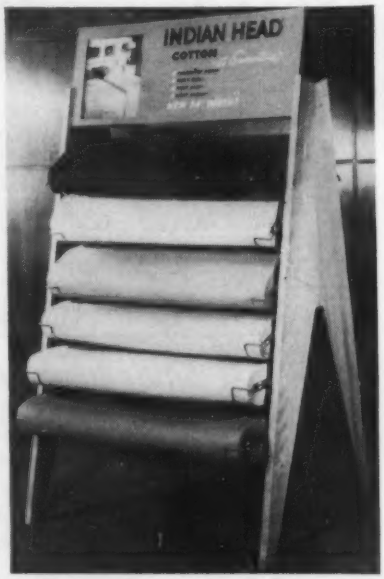
Stretch Yarn

▶A machine for making stretch yarn, called No. 550 Leesona, has been released for sale by Universal Winding Co., Providence, R. I. Universal also announced the purchase of the Permatwist patent applications and existing Fluflon licenses. So Universal offers a choice of two types of equipment for making stretch yarn.

▶Burlington Mills has announced that its patent-applied-for process for making stretch yarn will be licensed to full-fashioned mills and to throwsters. Chadolon, the process controlled by Chadbourn Hosiery Mills, and Agilon, Deering, Milliken's stretch yarn, have already been licensed to several throwsters.

▶Christmas sales of hosiery were the largest in history, according to the National Association of Hosiery Manufacturers; an extra 14-million dozen pair were sold for gifts. The large sale is credited largely to stretch hose, which solve the problem of size for the Christmas shopper.

Sales Aid



DISPLAY RACK for cotton piece goods has been developed by Indian Head Mills. In three months, 400 racks have been sold to stores. The rack is also given free with an initial purchase of 24 bolts of colored cottons.

News Briefs

▶To mills interested in building up a reference library, the American Library Service, 117 W. 48th St., New York 36, N. Y., will supply a list of out-of-print books on textiles that are available for sale. The company offers a free world-wide search service for out-of-print books.

▶Du Pont has developed a four-step method for restoring whiteness to discolored nylon garments. The method can be used at home or by laundries.

▶A laboratory machine for evaluating the nep potential of raw cotton has been developed by U. S. Dept. of Agriculture. The machine processes a three-gram sample of blended cotton into a 4-in. web, which is cut into 10 specimens for evaluation. Four samples are processed per hour.

▶Textile machinery can now be purchased on a 10-year installment plan announced by C.I.T. Corp.

▶The percentage of consumer expenditures going into clothing and shoes reached a new low in 1954: 8.4%, a drop of 0.2% from 1953, and down 2.7% from 1948. The textile share of the consumer's dollar has been decreasing steadily for the last 25 years.

▶A seal of cleanability for rugs is offered by the National Institute of Rug Cleaners to all manufacturers of rugs. Rugs must pass a series of tests made by the organization to qualify.

▶Arlin, a highly reflective yarn for use in decorative fabrics, is being made by Arlin Mfg. Co., Lowell, Mass. The yarn is supplied as a transparent lustrous material, but it can be piece-dyed

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at the boil. It will withstand tempera-

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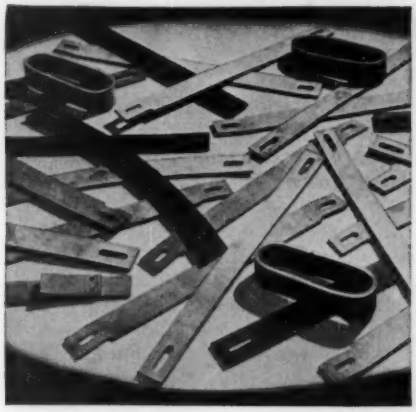

More Than a Dozen Cotton Mills Report Cutting Strap Costs in Half

To determine the specific advantages of its Tannate Special Leather check straps, J. E. Rhoads & Sons recently analyzed reports submitted by users during the past 8 years. Outstanding in each of these reports was the fact that each of these mills had cut their strap costs in half.

These were not reports of tests run on a limited number of looms. Reports were made by more than a dozen cotton mills throughout the south, weaving all types of cloth on roughly 7,146 looms. (Model E, X, X-2, XD and XP Draper looms as well as Hunt Looms). These looms were running anywhere from 150 to 200 picks per minute, three shifts a day, six days a week. The performance of Tannate Special checks was compared to all makes and shapes of straps.

One mill reported using one third the pounds of Tannate Special check straps as compared to the straps previously used. Another mill reported Tannate Special checks averaging 6,000 loom hours, on 40" E model Draper looms, running at 165 picks per minute. Still another reported, "We tried all kinds of straps in the past but Tannate Special checks cut our strap costs by more than half."

A booklet giving highlights from several of the reports has been prepared by J. E. Rhoads & Sons. Free copies are available by simply writing J. E. Rhoads & Sons, 35 N. 6th Street, Phila. 6, Pa.

Mills get long life from Rhoads Harness straps

Many cotton weaving mills are standardizing on Rhoads Harness and Jack straps because of the long strap life they have experienced with them. Rhoads claims this long life results from the extraordinarily high tensile strength built into the straps by their special tannage.

Here's where YOU should use Tannate*

FLAT LEATHER BELTING

ON DRIVES WHERE YOU NEED MORE CAPACITY

Tannate with its high overload capacity is the economical way to get more production from your present equipment.

ON HIGH SPEED DRIVES

where belt speeds as high as 6,000 f.p.m. are required. Tannate can do a good job because it is comparatively light in weight — consequently centrifugal force is less effective.

ON MULTIPLE PULLEY DRIVES

Tannate is flexible — can take the twisting and turning of serpentine drives, mule drives and quarter turn drives — has a high coefficient of friction (on both sides of the belt) that maintains high operating efficiency.

ON SHORT CENTER AS WELL AS LONG CENTER DRIVES

don't overlook the advantages of Tannate on short center drives. Although the Tannate short center drive usually does require a tension-controlling motor base for best performance, this means a constant, maintained RPM resulting in increased production capacity.

***What is Tannate?**

Tannate is a *special tanned leather* belt. It combines exceptional grip, pliability, elasticity, strength, and durability. It will resist moisture, mineral oils and the fumes of most acids — will withstand high temperatures. For specifications, write J. E. Rhoads and Sons, 35 North Sixth Street, Philadelphia 6, Pa.

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VERSATILE, COMPACT, RUGGED, EFFICIENT. McBRIDE MAGAZINE CREELS ARE ENGINEERED FOR YOU—TO INCREASE YOUR EFFICIENCY, CUT YOUR COSTS.

QUIK-CHANGE, New McBride cone holder has already proved its versatility in handling cones, pirns, bobbins, tubes, etc.

FEATHER-TOUCH THUMB RELEASE allows instant change of packages without tools. Just snap it on, snap it off. Sturdy swing-out arm gives easy access for loading. Rotating spindle facilitates tying of transfer tails.

Like all of the McBride BIG 3 CONTROLS FOR QUALITY, the Quik-Change cone holder is standard equipment on all McBride creels.

THE OTHER TWO CONTROLS FOR QUALITY:

TENSION-MASTER—A wide range of clearly numbered settings insures uniform tensions on all ends. Settings of an entire row of units checked at a glance.

INSTANT-STOP—Sealed mercury-switch stop-motion. Available in Sensitive, Standard, and Heavy-Duty models. Handles virtually all weights of yarns.

CREELS for every purpose, CONE HOLDERS, STOP MOTIONS, TENSION CONTROLS, WARP BEAMS, FLANGES, CARPET INSPECTION TABLES, METAL AND WOOD ROLLS.

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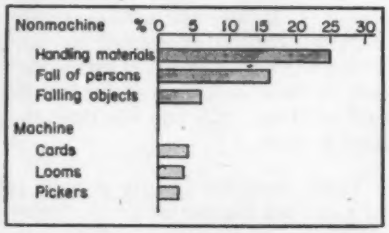
at the boil. It will withstand temperatures up to 300° F.

► The available exhibit space for the Knitting Arts Exhibition was almost completely sold out by Christmas. This year's show is being sponsored by underwear, outerwear, and hosiery trade associations.

► After a survey of industry, the U.S. Dept. of Commerce announced that textile manufacturers reported that the last quarter of 1954 improved in volume; and satisfactory mill activity is predicted for at least the first half of 1955. Prices and profits are expected to improve under the influence of sustained production.

Safety



ACCIDENT ANALYSIS of 2,224 lost-time injuries (frequency rate: 10.01) in 429 North Carolina cotton-yarn plants, as reported in Safety News Letter, Textile Section, National Safety Council, shows that nonmachine accidents are more frequent than machine accidents. A breakdown of falls showed: oily or wet floors, 89; tripping, 46; ladders and scaffolds, 30; stairs, 22.

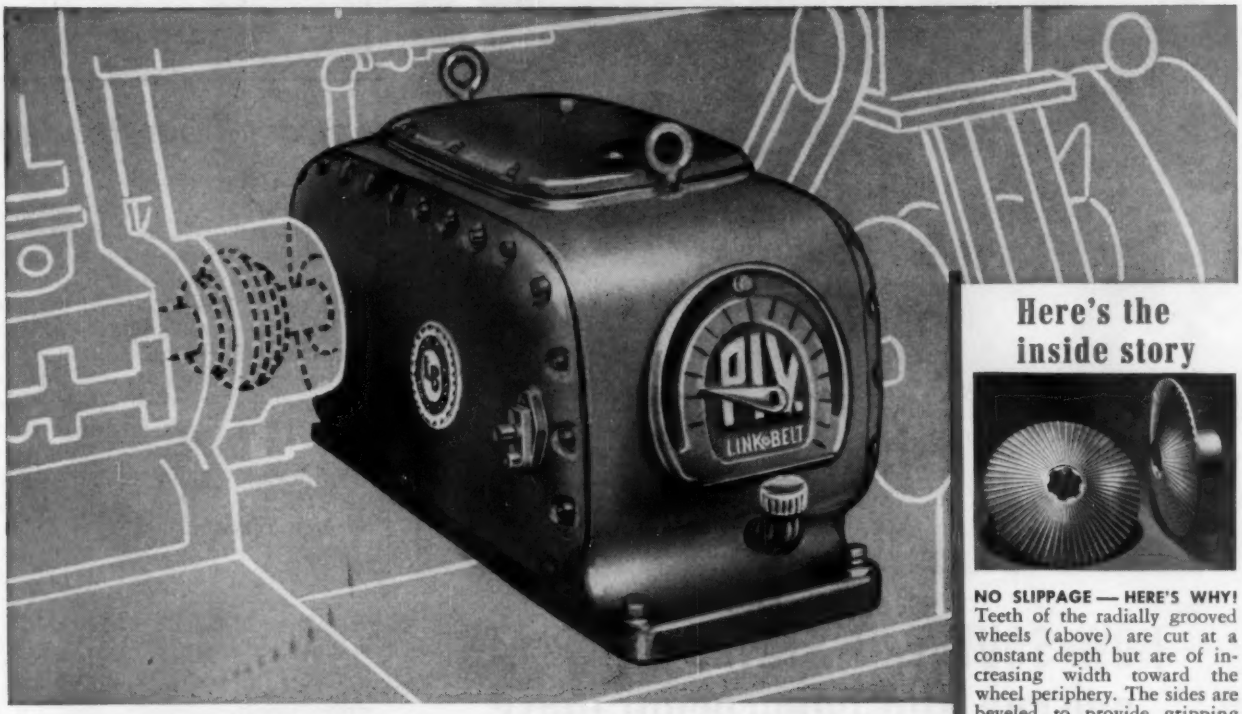
► A survey of color preferences of men and women by M. Don Lyons Co., Inc., showed that men prefer blue or red-plaid blankets and women tend to prefer pink and yellow. In living-room upholstery, men like green and brown and women like aquamarine and red.

► Du Pont has launched a new labeling program to help consumers identify four different types of acetate—solution-dyed, standard, crimpable Type C, and thick-and-thin yarn. Tags and labels are available from Du Pont.

► An advisory committee has recommended to the U. S. Dept. of Commerce that the patent-searching system be streamlined with mechanical searching equipment and that the reclassification of patents be accelerated.

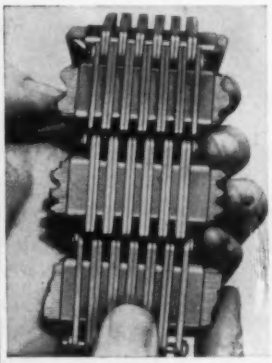
► An organization called Textile Printers & Dyers Labor Relations Institute has been formed to represent the printers, dyers, and finishers in the Paterson, N. J., area in union negotiations.

For positive, stepless speed selection all industry uses Link-Belt P.I.V.



Here's the inside story

NO SLIPPAGE — HERE'S WHY! Teeth of the radially grooved wheels (above) are cut at a constant depth but are of increasing width toward the wheel periphery. The sides are beveled to provide gripping areas for the self-tooth-forming chain (below). The chain slats shuffle back and forth between the wheels—mesh fully when they engage.



Operates independent of friction from maximum to minimum speeds

For speed changing that's completely positive . . . completely stepless—Link-Belt's P.I.V. has no equal. Here's a totally enclosed all-metal variable speed drive that provides exact speed selections—independent of friction.

Following are just a few of the jobs P.I.V. performs with matchless precision:

- Exact synchronization of rotating parts and machines
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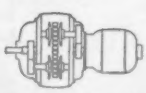
Find out how P.I.V. can extend the useful range of your machine operations. Your Link-Belt office or distributor will give you all the facts. Call today, or write for Book 2274.

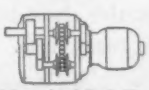
4 of 16 P.I.V. types — ½ to 25 hp — ratios to 6:1

Basic P.I.V. Like all others, it is built for horizontal or vertical mounting.

P.I.V. with single reduction input or output helical gears.



Motorized P.I.V. with single reduction input and output helical gears.



Motorized P.I.V. with single reduction input and double reduction output helical gears.

LINK-BELT P.I.V. VARIABLE SPEED DRIVE

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Mill case histories prove over and over that Southern States coiler conversions pay for themselves in less than a year!

Adding up to lower operating costs and savings you can see are—larger cans with increased capacity . . . renewed life of old coilers, longer life of new coilers . . . lower maintenance costs . . . smaller parts inventories . . . simplified, more efficient handling . . . plus improved quality.

Recognizing that each mill is faced with different problems, Southern States has produced the most complete line of coiler and coiler conversion units available to the industry. Thus, regardless of sliver handling methods, or condition of existing equipment, Southern States makes it possible for your mill to enjoy all the advantages of larger cans at a price you can afford.

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ROUND TABLE

Letters From Readers

What's on your mind?

We welcome your comments. Whether you agree or disagree, with us or anybody else, we will be glad to have you air your views.

Unless you ask us not to, we will use your name and company connection when your letter is printed. If you prefer to have your opinions appear unsigned, we will respect your confidence by using only a set of initials.

Write to Editor, Round Table, TEXTILE WORLD, 330 W. 42nd St., New York 36, N. Y.

WHAT VARIATION TOLERANCE IS BEST FOR ROVING FRAMES?

In the March 1954, issue of TEXTILE WORLD, the article called "How Much Testing Should You Do?" by Clyde Moss (p. 109) stimulated several letters from readers with differing ideas on the statistical methods.

Two problems were discussed in this article: how many bobbins per frame and how much roving from each bobbin should be tested to give the necessary control of roving frames. The answers to these problems depend on how sensitive you want the controls to be.

Mr. Moss said that the minimum tolerance should be based on a one-tooth change in the draft gear; with a 33-tooth draft gear, the tolerance should be 1/33, or 3%.

However, several readers thought that the tolerance should be based on a half-tooth change; with a 33-tooth draft gear, the tolerance should be 0.5/33, or 1½%.

To get another opinion on what tolerance to use, TW asked E. S. Rudnick, director of research, Wamsutta Mills, to write an opinion; and Mr. Rudnick supported the 3% tolerance.

Here are the arguments for 3% and 1½% tolerances:

For 3% Tolerance

It's strong—it's clear and it's here!

VITAFILM

—*finest film ever developed for textile packaging*

VITAFILM *now guards and glamorizes such famous brands as these*

IF you're packaging sheets, pillowcases, clothesline, napkins—or any paper or textile product—Goodyear Film Development Laboratories has some mighty important news for you.

It's about a new extruded Vinyl product called VITAFILM—a film that gives you this unmatched combination of advantages:

High tensile strength.

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Exceptional resistance to sunlight—excellent aging qualities.

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VITAFILM is ready for you now. And the Goodyear Packaging Engineer is ready to help you adapt it to your specific problem. Write him at Goodyear, Packaging Film Dept. Akron 16, Ohio.

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For complete information on instruments for textile measurements, contact Brush Electronics Company, 91 Cleveland Street, Greenville, S. C., telephone 5-4079 or Dept. Q-2, 3405 Perkins Avenue, Cleveland 14, Ohio.

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Tension Analyzer*: for rapid measurements of tension levels and tension variations.

Imperfection Counter: accurately counts the number of neps and other imperfections in yarn.

Lap Tester: for testing longitudinal and lateral variations of picker laps.

*Trade-Mark

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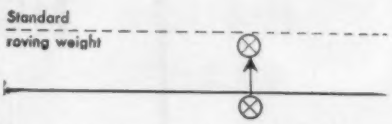
For 3% Tolerance

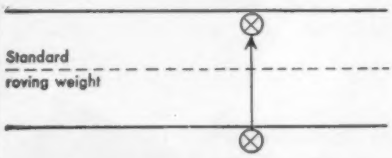


ONE-TOOTH TOLERANCE means the average roving weight will move closer to the standard weight with a one-tooth change of the draft gear to correct an out-of-control point.

The 3% tolerance is preferable. For example, suppose the roving is out of control on the heavy side. Theoretically, by changing one tooth on the draft gear, the roving weight should return to the central past-average line. However, with a narrow 1½% (half-tooth) tolerance, the one-tooth gear change would bring the size level to the light side, and the roving weight will begin to fluctuate around the control limit on the lighter side. And as soon as one size is even slightly lighter than this new level, another gear change is needed.

The 3% tolerance brings the size level closer to the standard center line than a 1½% tolerance does. In Mr. Rudnick's opinion, the narrow limits would require an excessive number of back-and-forth gear changes. Insert Fig B & Caption .. Catchline

For 1½% Tolerance



HALF-TOOTH TOLERANCE means the average roving weight will move closer to the opposite control limit with a one-tooth change of the draft gear to correct an out-of-control point.

With a 1½% tolerance, a one-tooth change will bring the roving frame within standard. The advantage of the closer tolerance is that the total variance is reduced.

But to maintain the accuracy of a 1½% tolerance, the sample size is larger than for a 3% tolerance.

Range Variations

Another difference of opinion developed over average-range variations. In Mr. Moss's article, the average range among tests from the same bobbin was greater than the average range among bobbins from the same frame. Mr. Rudnick pointed out that this situation is not unusual and may

CONTINUED ON PAGE 135

We think you'll like "THE GREATEST STORY EVER TOLD"—every Sunday—ABC Radio Network—THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network

Blueprints call for bearings?

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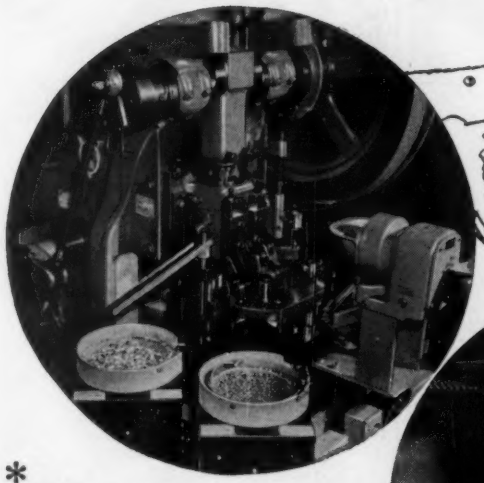

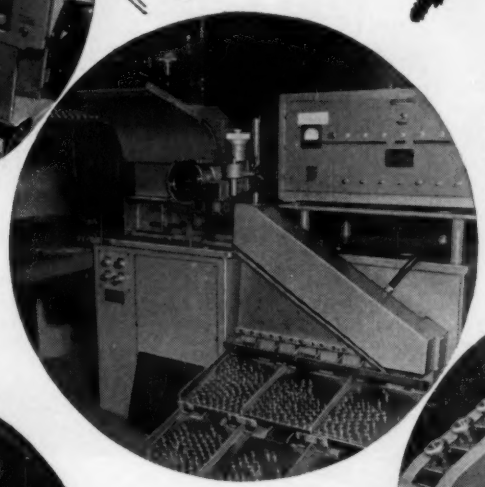

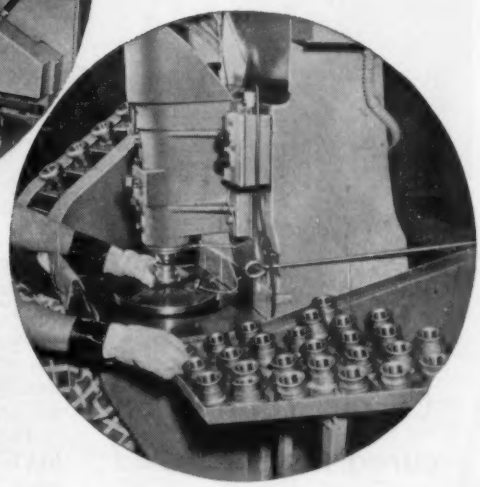

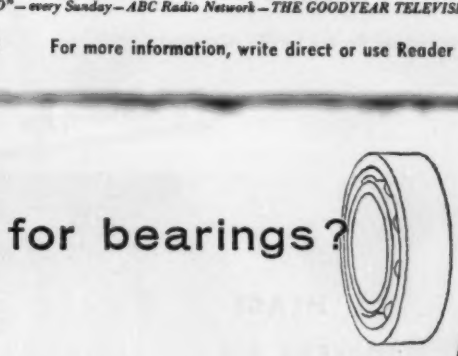

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* **DELIVERY!**—Electronics work at New Departure! Bearing races are speedily sorted into six dimensional classifications by this machine. Volume is up because New Departure invested in this modern equipment.

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They were like giant spiders spinning endless threads. Only, these were *man-made* "spiders"... their sinews were gears, shafts and bearings—their lifeblood was oil. But this lifeblood kept vanishing, leaving these spinners constantly hungry for oil.

There were 140 of these spinning units in a large rayon mill. Each unit contained many "Godet" boxes—reservoirs of oil to lubricate vital moving parts. Every day, each unit was short two gallons of oil—a total of 280 gallons.

A Socony-Vacuum man, making a lubrication analysis of this plant, asked one of his staff engineers to work with plant personnel on this problem. They found the cause... rotation of a shaft protruding from each Godet box caused oil to travel along the shaft out of the box and drip off.

To remedy this, they cut a spiral groove in the shaft so as to force the oil back into the box. They also changed to a heavier grade of oil. As a result, oil loss was drastically cut, saving the company $1,700 a month!

Engineering service like this comes with our program of Correct Lubrication. Why not call us and get such a program started in *your* plant?

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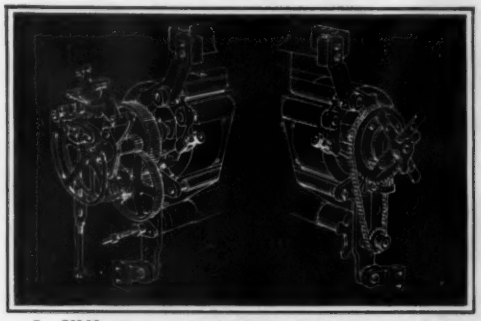
No.4 in a series explaining

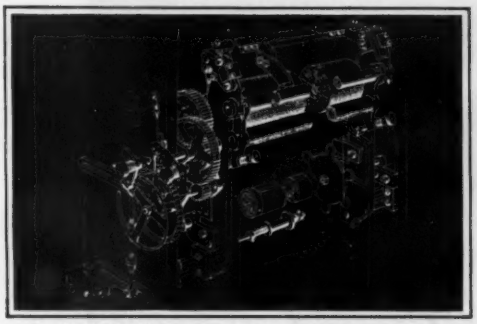
Why C&K's New Multi-Purpose Looms mean More Profit to any mill

Regardless of the type of M-P Loom you buy, C&K offers a type of takeup which is suitable for the fabrics you will weave. These include:



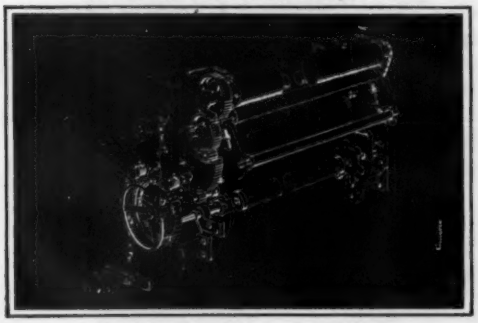
1. SILK: The so-called silk ratchet-driven takeup is normally used in producing high-pick filament and silk fabrics of finest texture.

31½" circumference takeup roll. Winding-up roll accommodates 11¾" diameter roll of cloth.



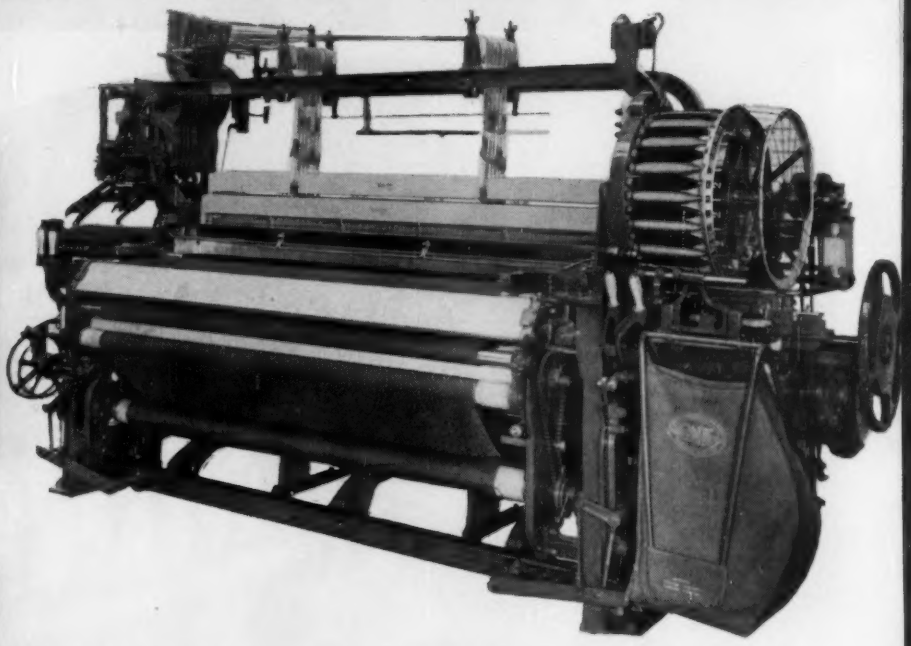
2. LOW ROLL: The low-roll ratchet-driven takeup is normally used in the medium pick range for fabrics such as cottons, blends and coarser synthetics.

20" circumference takeup roll. Winding-up roll accommodates 17⅛" diameter roll of cloth.



3. ALL PURPOSE: The all-purpose takeup is either of the positive reverse worm or ratchet-driven type, depending on the shedding mechanism and weaving requirements. This type of takeup is normally used for blends, woolens, worsteds and fabrics requiring a heavy beat-up.

15¾" circumference takeup roll. Winding-up roll accommodates 17⅛" diameter roll of cloth.



What is more, any one of these three takeups can be replaced by either one of the other two at a later date, with minimum effort and expense, if style trends make it advisable. This is another exclusive feature of C&K's new M-P Looms, as shown in the check chart.

So see C&K *without delay* for the exact type of M-P Looms best suited to *your* operation.

THESE NEW M-P FEATURES CONTRIBUTE→TO THESE PROFIT FACTORS

	Better Quality	Increased Work Assignments	Increased Production (Speed X Efficiency)	Lower Maintenance	Versatility
Rotary Magazine: For single color, or for multiple-color work (up to 4).	✓	✓	✓	✓	✓
Scissors Thread Cutter	✓	✓	✓	✓	✓
Vacuum Filling Control	✓	✓	✓	✓	✓
Cone Picking	✓	✓	✓	✓	✓
More Rugged Basic Frame: Common to all M-P Looms.		✓	✓		✓
Letoffs: New composite type. Also other standard and special types.		✓	✓		✓
Takeups: All purpose, silk, or lower winding roll.	✓	✓	✓	✓	
Lay: Precision-built and convertible — 1x1, 2x1, 4x1, 4x2, and 4x4	✓	✓		✓	✓
Shedding Mechanisms: Knowles Head — 25 Harness, 4/10" Space Knowles Head — 20 Harness, 1/2" Space Dobby — 20 Harness, 15/32" Gauge Undercam Jacquard	✓	✓		✓	✓
Feelers: As required.	✓	✓	✓	✓	✓
Driving & Shipping	✓	✓	✓		✓
PRECISION, STRENGTH, SIMPLICITY Throughout Every M-P Loom	✓	✓	✓	✓	✓

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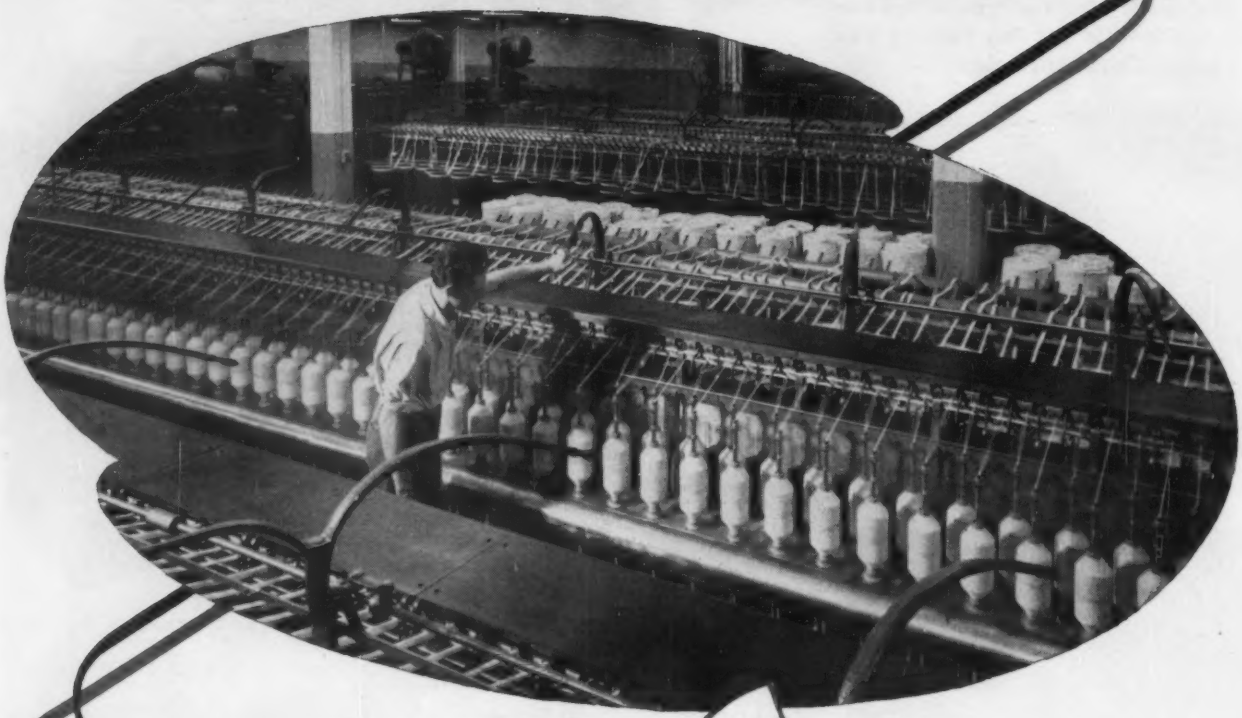

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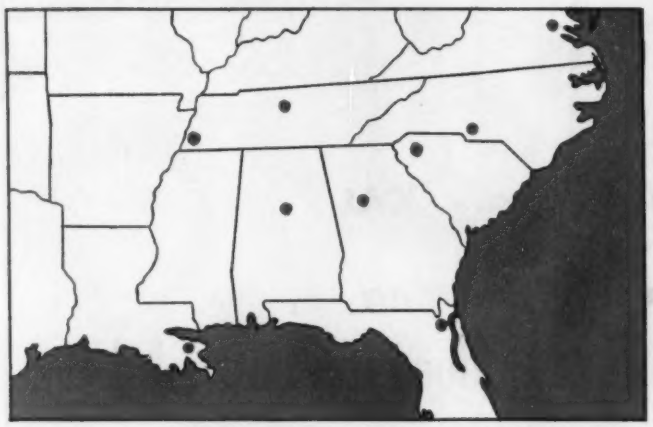

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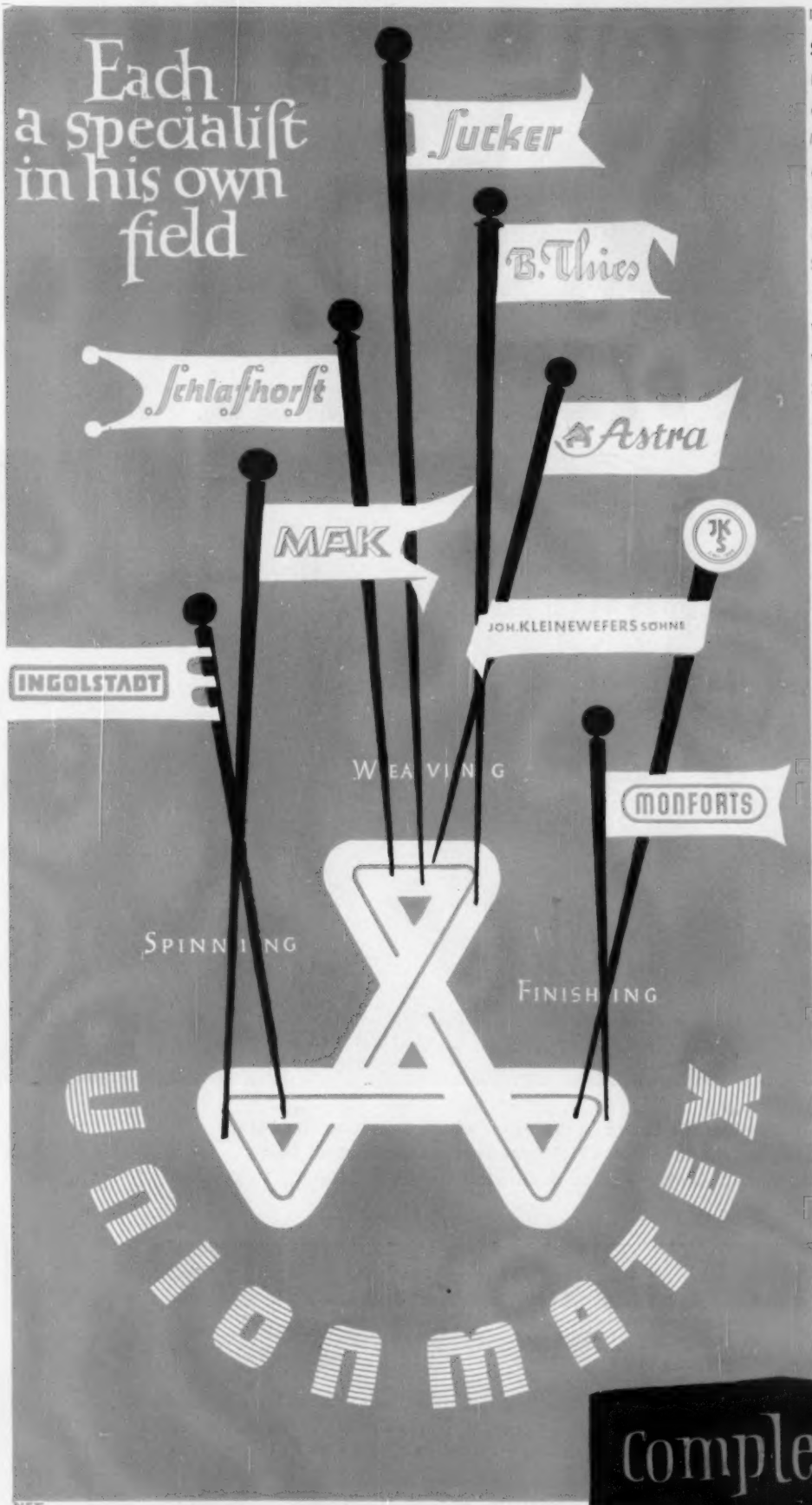

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WEAVING MACHINES FOR COTTON- WOOL- AND SPECIAL FABRICS e. g. FELT-CLOTHS · JACQUARD-WEAVING MACHINES

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CALENDERS · MANGLES · PRINTING-, MERCERIZING-MACHINES · CONTINUOUS BLEACHING AND DYEING PLANTS

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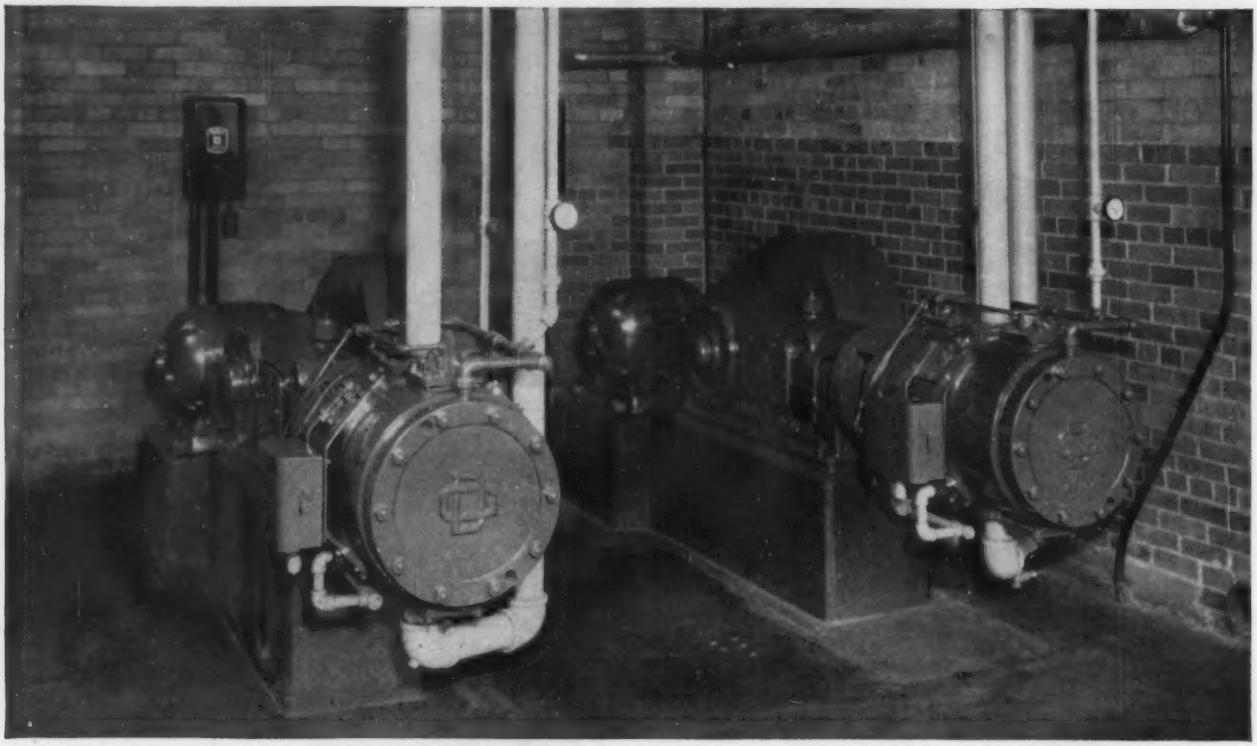
Complete plants

NET

DEUTSCHER SPINNEREIMASCHINENBAU INGOLSTADT

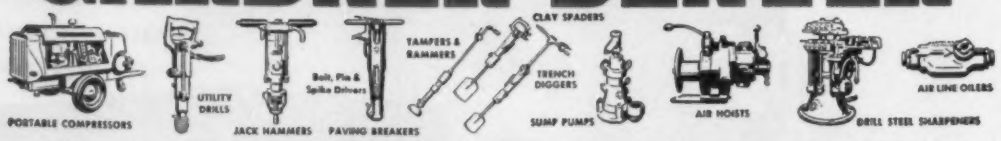
NO OIL IN THIS AIR!



It's a CRX Carbon Piston Compressor with the famous Gardner-Denver construction that STOPS product contamination. There's no oil in the cylinder — no oil in the air. Send for Bulletin CRC-10.

SINCE 1859

GARDNER-DENVER



THE QUALITY LEADER IN COMPRESSORS, PUMPS AND ROCK DRILLS FOR CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

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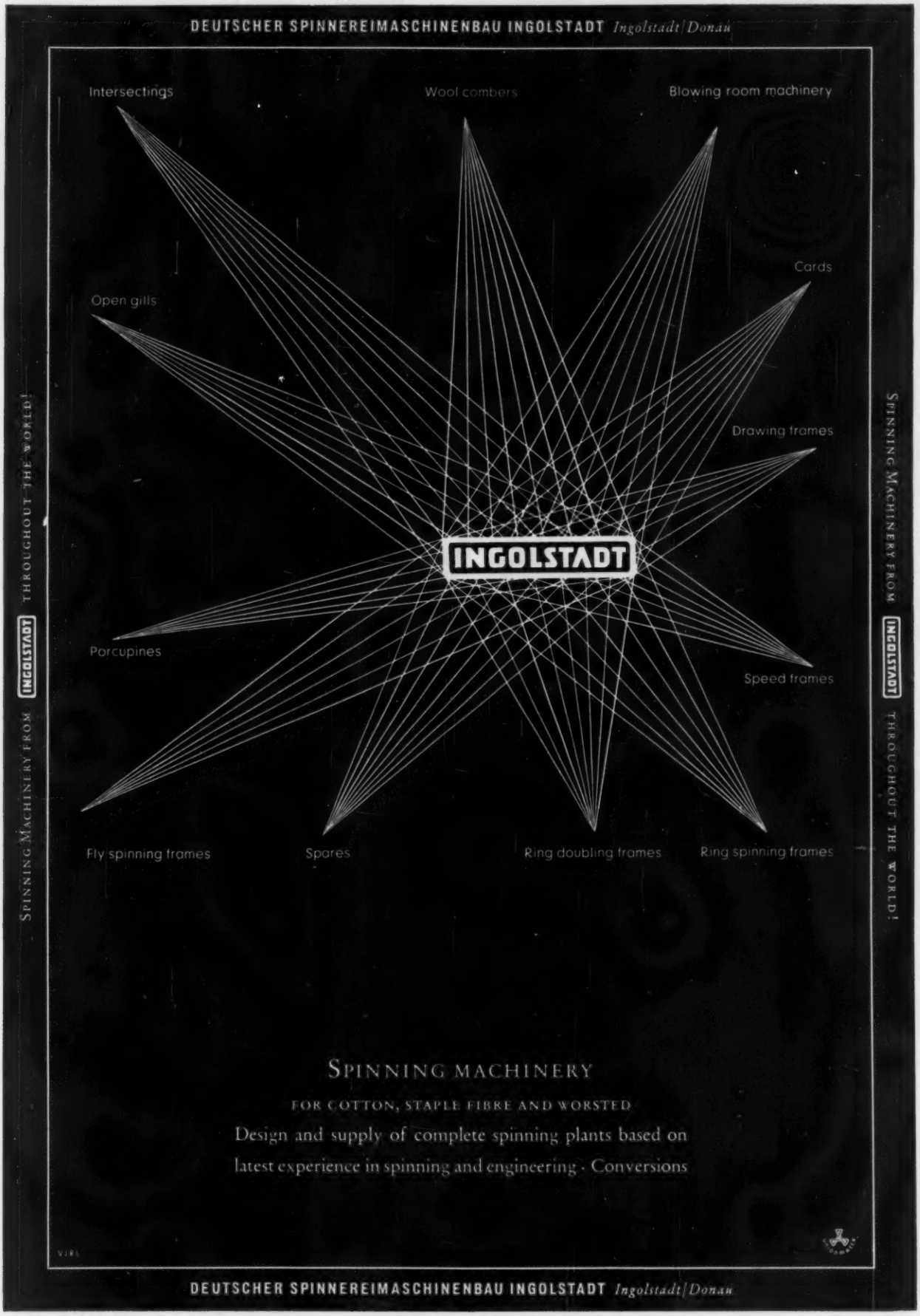
Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.


DEUTSCHER SPINNEREIMASCHINENBAU INGOLSTADT Ingolstadt/Donau
Intersectings
Wool combers
Blowing room machinery
Cards
Open gills
Drawing frames
INGOLSTADT
Porcupines
Speed frames
Fly spinning frames
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Ring spinning frames
SPINNING MACHINERY FROM INGOLSTADT THROUGHOUT THE WORLD!
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FOR COTTON, STAPLE FIBRE AND WORSTED
Design and supply of complete spinning plants based on
latest experience in spinning and engineering · Conversions
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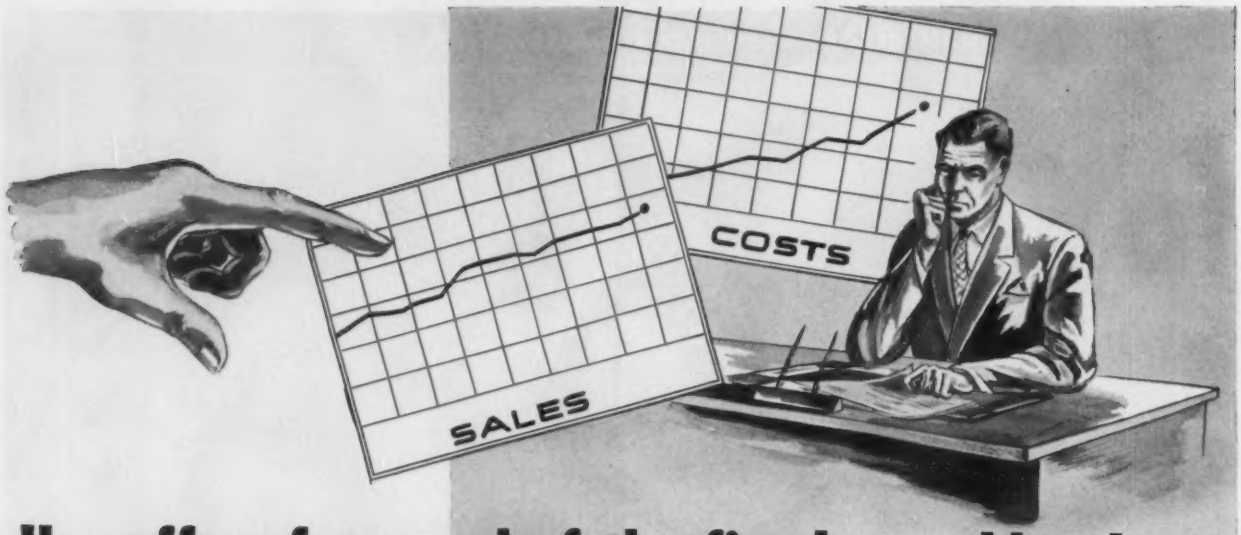


He suffers from end of the fiscal year blues!

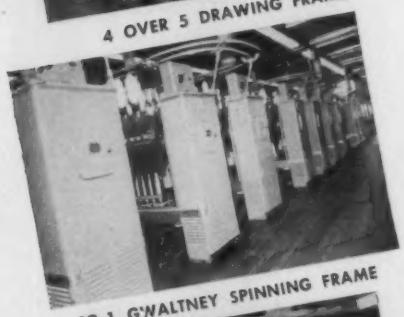
ANOTHER YEAR HAS PASSED — COSTS HAVE INCREASED, PROFITS HAVE DECREASED.

Saco-Lowellizing IS THE ANSWER TO HIS PROBLEMS — AND YOURS!

4 OVER 5 DRAWING FRAME

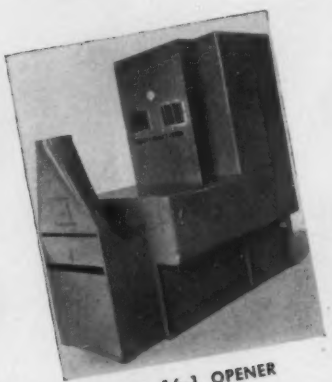
Mills all over the world have found that Saco-Lowellizing is the answer for bettering their operations and increasing profits. Specifically, the Saco-Lowellizing program helps you make better use of floor space, thereby improving production flow; it co-ordinates the successive steps in processing; reduces waste, spoilage and unnecessary handling of stock; and, helps you realize the greatest economies in operating and maintenance cost.

To obtain a full Saco-Lowellizing Plan for your mill, call the nearest Saco-Lowell Office and arrange for one of our engineers to prepare a "Forecast of Savings."

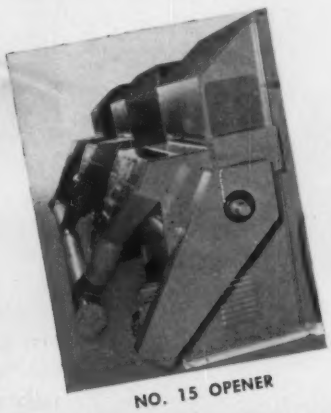


SG-1 G'WALTNEY SPINNING FRAME

FS-2 ROVING FRAME



NO. 16-1 OPENER



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Tying Up Man Hours?

Cut costs with Pure's "Simplify and Save" plan

THE PURE OIL PURE COMPANY, U.S.A.

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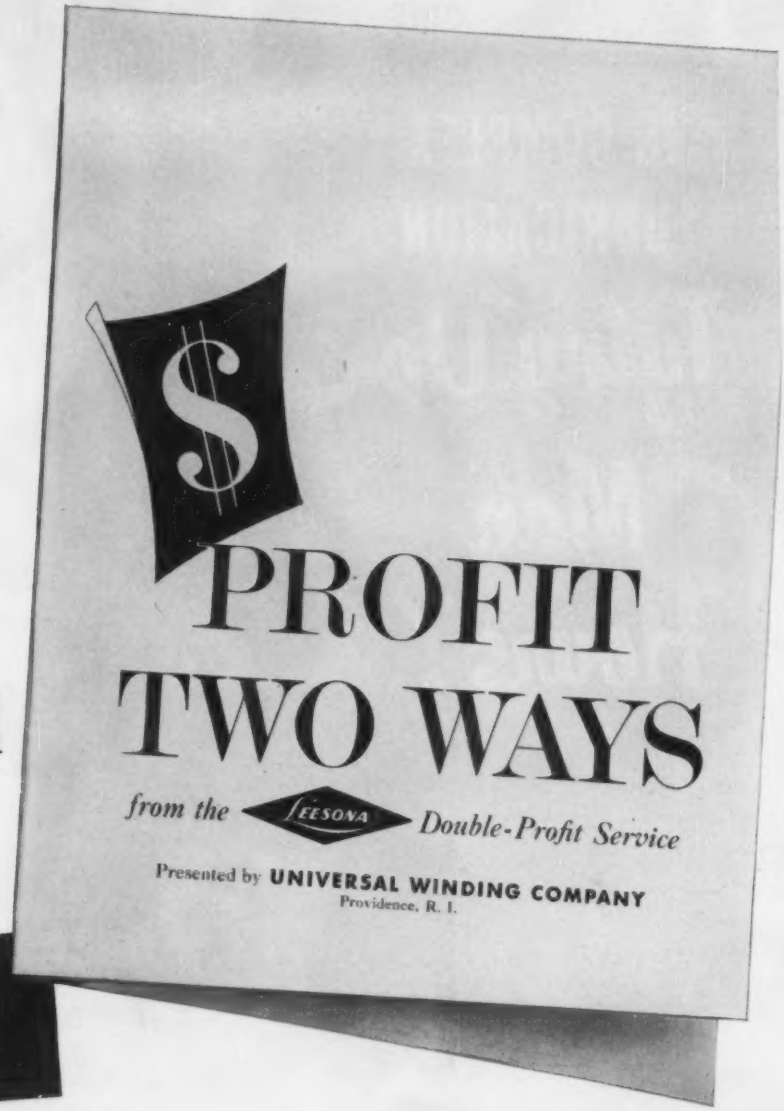
Be sure with Pure **PURE MULTIPURPOSE LUBRICANTS**

Sales offices located in more than 500 cities in Pure's marketing area

Can you use a compact drive with infinitely variable speeds?

This folder tells you two ways to boost textile mill profits



Send for it!

Universal's new folder describes the Leesona Double-Profit Service, which tackles the problem of how to increase textile mill profits — tackles it squarely from entirely different angles and comes up with two of the most progressive, most sensible measures ever offered. These are:

I. THE LEESONA PROFIT FACTOR STUDY

A detailed, absolutely confidential, economic study of your twisting and winding operations. It covers all factors in the operations being analyzed, and all interrelated operations. You get a complete analysis with recommendations — an unusual service performed by Universal that is without any obligation whatever on your part.

II. THE LEESONA PAY-AS-YOU-PROFIT PLANS

Two plans for the purchase or lease of modern, cost-cutting twisting and winding machinery:

1. The Leesona Long-Term Purchase Plan
2. The Leesona Long-Term Lease Plan

Advantages of these plans include immediate opportunities for economy and/or expansion, protection for your cash position, and simplified financing.

The folder tells how these progressive measures may be used separately, or to supplement each other. Send for your copy today — get the facts that have already aided many mills to step up their production and profits!

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Winding and Twisting Machinery for Natural and Synthetic Yarns

Can you use a compact drive with infinitely variable speeds?

HERE IT IS

Cleveland Speed Variator

NOW available in 9 sizes, ranging from one-half to 10 horsepower at 1750 input RPM.

INFINITELY variable, stepless speeds within a 9:1 range (from ⅓ to 3 times the input speed).

Smooth, instant change of speed by simple manual adjustment or by remote control devices, either manual or power operated.

Operating efficiencies—75% to 90%.

Coaxial input and output shafts, rotating in same direction, either clock-wise or counter clock-wise.

Ample bearing support for both input and output shafts to carry overhung pulleys.

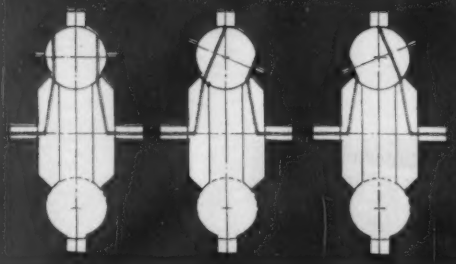
Compact and inherently quiet and smooth running, due to simple construction.

Minimum maintenance and long life, due to absence of belts and other complicated linkage.

Performance proved by prolonged tests in the laboratory and field operation.

These are the outstanding advantages of the Cleveland Speed Variator. It is now ready for service. Immediately applicable to a wide variety of machines and equipment where a dependable variable speed drive is required. For detailed description and specifications, write for Bulletin K-100.

HOW THE CLEVELAND SPEED VARIATOR WORKS



Power is transmitted from input shaft to output shaft through alloy steel driving balls which are in pressure contact with discs attached to the two shafts.

Relative speeds of the shafts are adjusted by changing the positioning of axles on which the balls rotate (see diagrams, left, and cutaway view, right).

THE CLEVELAND WORM AND GEAR COMPANY

Speed Variator Division, 3268 East 80th St., Cleveland 4, Ohio

Sales Representatives in all major industrial markets

For more information, write direct or use Reader Service post card.

most revolutionary
development since metallic yarns
were first introduced!

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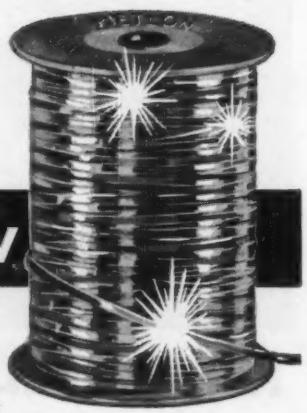
everything
look
better.



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non-tarnishing metallic yarn

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*DuPont's Registered Trademark for its Polyester Film
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ALLIS-CHALMERS

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REVOLUTIONARY...with a deep bow to DUPONT

MYLAR*, another historic achievement of DuPont research and engineering, makes possible this sensational advance in metallic yarns.

REVOLUTIONARY...a metallic that can be dyed at the boil!

METLON®-MYLAR* is safely adaptable to high temperatures (300° or higher) in dyeing or finishing with either natural or other synthetic fibres.

REVOLUTIONARY...a metallic that can be laundered or ironed at high temperature!

METLON®-MYLAR* launders even at washing machine temperature, and can be ironed under the same conditions prescribed for the fabric in which it is combined.

REVOLUTIONARY...a metallic that can be used in fine knit goods!

METLON®-MYLAR* will not cut on itself or on other delicate yarns, opening up an entire new field for metallics in hosiery, tricots, and other fine knit goods.

REVOLUTIONARY...a metallic with a 100% increase in tensile strength!

METLON®-MYLAR* will give smooth, uninterrupted production on all types of looms, and can often be used without a supporting yarn.

REVOLUTIONARY...a metallic that gives 50% more yield to the pound!

METLON®-MYLAR* is so much finer in thickness that it gives up to 50% more yardage to the pound . . . an important economy.

through the mill

ALLIS-CHALMERS
TEXTILE
DRIVES

All

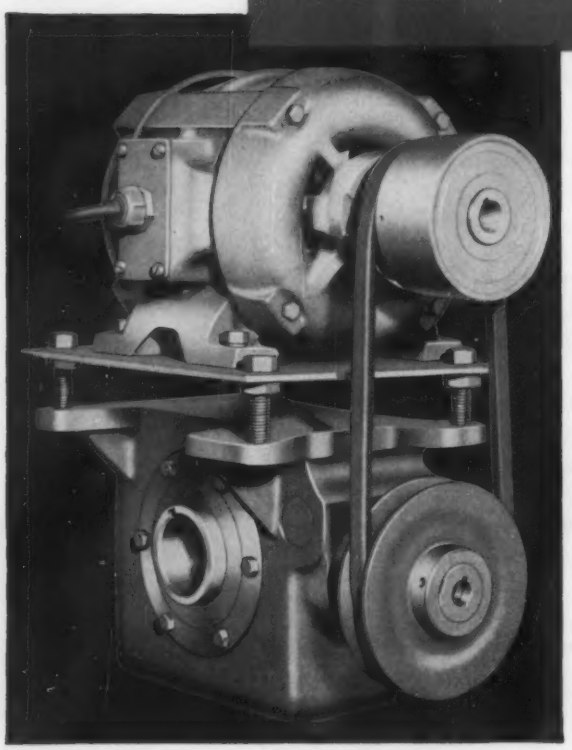
Increase Quality and Production ...Cut Maintenance

Power Packages . . . Get complete coordinated equipment from power line to the driven shaft of your textile machinery. Allis-Chalmers textile drives result from thorough knowledge of power requirements throughout the plant. Each unit described here has been designed to get maximum efficiency, output and continuity of service from a specific type of machine. Motor, control and drive characteristics are all tailored to the job, and long operating experience has proved their effectiveness.

Backed by Certified Service
Allis-Chalmers distributors and district offices in all major textile areas offer skilled application help. Well-equipped and conveniently located Certified Service Shops provide factory-approved methods and parts to keep your drive equipment operating at top efficiency.

Get This Literature
Handy Guide to Motor Selection (Bulletin 51B6052) —*Quick-Clean* Textile Motors (51B6055B) —Across-the-Line Starters (14B7132) —Reduced Voltage Starters (14B7215) — and *Vari-Pitch* Drive Engineering Data (20B7499). Call your nearby A-C District Office or write Allis-Chalmers, Milwaukee 1, Wis.

CARDING



Individual Card Drives Make Card Rooms Cleaner, Safer

Individual card drives do away with unsightly and dangerous overhead line shafting and long belts. No hard-to-clean ceiling structure to drop dirt and grease in machines — better lighting and plenty of ceiling room to install air conditioning.

Features
Quick-Clean motor drives gear reducer through *Texrope* drive and mercury clutch. Sheave adjustable for cylinder speeds from 157 to 189 rpm.

- Complete unit mounts on present card cylinder shaft and fits present aisle space.
- No vibration or strain on card arch, and weight of drive does not overload bearing.

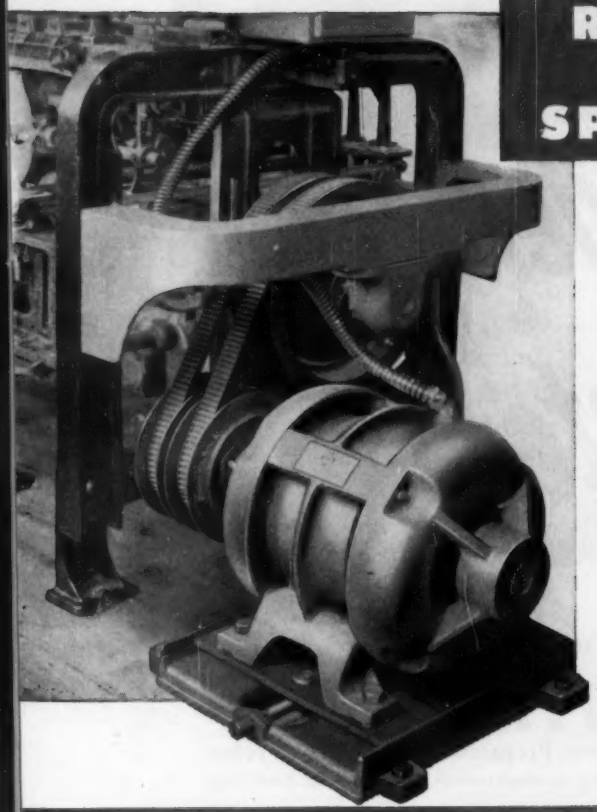
Quick-Clean, Vari-Pitch and Texrope are Allis-Chalmers trademarks.

A-C ALLIS-CHALMERS

ALLIS-

News about

through the mill



ROVING and SPINNING

Lint and Dirt Can't Stop *Quick-Clean* Textile Motors

Wide open air passages and powerful fans sweep dirt and lint right through and OUT of these motors. They end motor problems created by lint-laden atmospheres.

Features

Bearings: sealed, prelubricated double-width single-row ball bearings operate long periods without attention of any kind. May be cleaned and repacked if required.

- Slow-acceleration motor for roving frames. Takes almost three times as long as standard motor to reach speed. No special control required.
- *Texrope* V-belt drives and correct control supplied to meet complete machine drive needs.

WEAVING

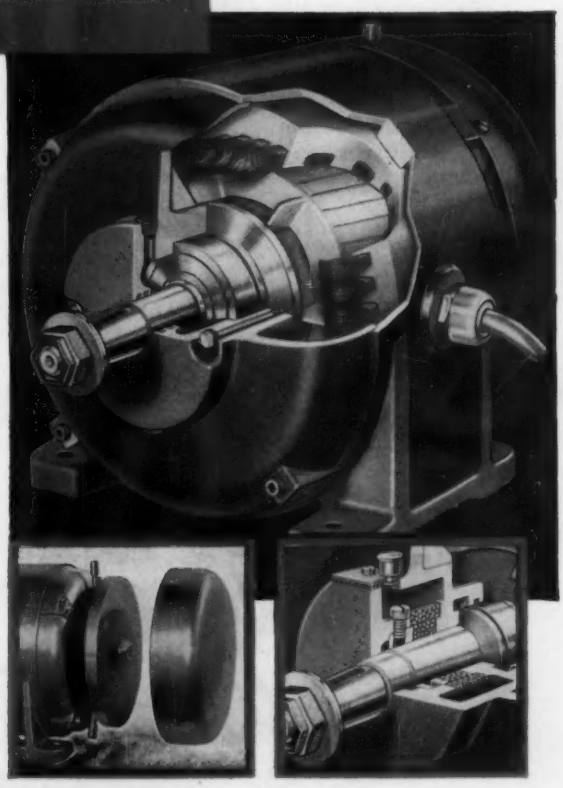
New Motor Design Licks Problems of Modern High Speed Operation

Oversize rotor, stator and bearings built to handle rapidly oscillating load of loom speeds as high as 200 picks per minute and more. Rotor diameter is as great as possible for added flywheel effect, and slip has been regulated to produce minimum speed variation. Nearly two years of field testing prove the operating economies possible.

Features

Totally enclosed, non-ventilated design excludes all lint from interior.

- Stator double insulated, extra large, heavy construction.
- Die cast rotor of large diameter and proper slip maintains stable speed under pulsating load.
- Oversize ball bearings of double-shielded type protect against over-greasing that causes bearing trouble.
- Optional: (1) flywheel for added inertia and (2) waste-packed bronze sleeve bearing.



A-4538

CHALMERS

Struthers Wells Corp. needed top dimensional accuracy and material quality for tubes

News about

B. F. Goodrich Chemical *raw materials*

upgrade denim with Hycar latex

a simple, low cost method

THERE'S new life *and* sales appeal in denim that is upgraded with Hycar latex. Because of its improved wearing qualities and washfastness, Hycar treated denim can be used for sportswear and other garments where conventional denim is not practical. Hycar latex is easily applied as a warp size to cotton yarn or as an aftertreatment to the finished fabric. Hycar nitrile latex offers these advantages:

Ease of application. Prepared and applied at room temperature using conventional slashing or padding equipment.

High loom efficiency. Properly Hycar-sized yarns weave as well as yarns with high quality starch sizes.

Permanence. Hycar size lasts through extensive launderings—does not interfere with the Sanforizing processes.

Desirable hand. The finished denim has a pleasing soft, yet full hand unaffected by many washings.

Improved washfastness. In Launderometer tests, Hycar-sized blue denim showed no apparent fading or staining.

Increased wear life. Comparison after five launderings shows that Hycar-sized denim has an abrasion resistance 3 to 5 times that of regular starch sized denim.

Find out how Hycar nitrile latices can help you produce improved denim and other cotton products. For information, please write Dept. CM-1, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

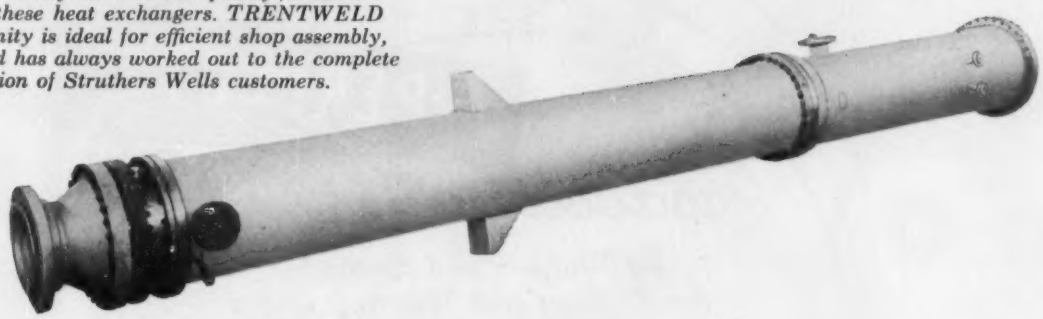
Hycar Reg. U.S. Pat. Off. *Latex*

B. F. Goodrich Chemical Company
A Division of The B. F. Goodrich Company

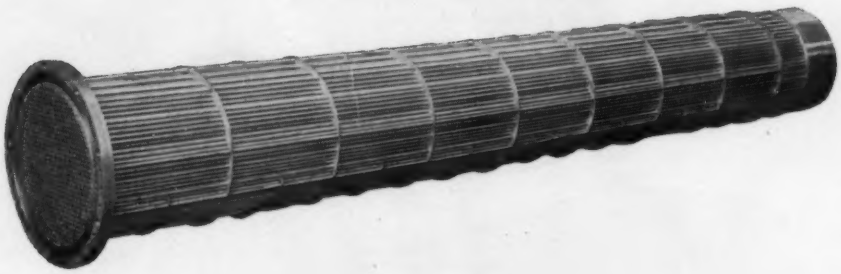
GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

The Reiner Line:

Struthers Wells Corp. needed top dimensional accuracy and material quality for tubes for these heat exchangers. TRENTWELD uniformity is ideal for efficient shop assembly, and has always worked out to the complete satisfaction of Struthers Wells customers.



always uniform . . . extra quality . . . largest selection



TRENTWELD stainless tubing

It takes *specialists* to manufacture stainless welded tubing of uniformly high quality. That's why TRENTWELD is the *preferred standard* for quality wherever stainless or high alloy tubing is required.

For TRENTWELD stainless tubing is the product of tube mill specialists. The unique Trent process results in a *uniformly sound* weld indistinguishable from the parent metal—*and equal or superior to it in strength, ductility and corrosion resistance.*

Don't forget, too, that Trent offers you the widest size range found anywhere. ⅛″ to 40″ O.D. are standard sizes... and even larger diameters are available if you need them.

So, whether you need stainless tubing for heat exchangers or kiln dryers... fountain pens or frying pans—*for any requirement* for stainless or high alloy tubing—remember: *you can't buy better tubing than* TRENTWELD.

FREE— ask for your copy of the new book "Trentweld Stainless and High Alloy Tubing." You'll find practical details on applications, plus full tables on physical and chemical properties, and weights per foot on the sizes and grades you need. Send for your copy today.

TRENTWELD

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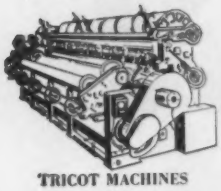
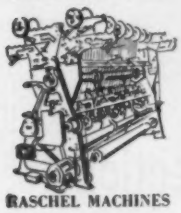
TRENT TUBE COMPANY, GENERAL SALES OFFICES, EAST TROY, WISCONSIN (Subsidiary of CRUCIBLE STEEL COMPANY OF AMERICA)

GEON polyvinyl materials • HYCAR American rubber and latex • GOOD-RITE chemicals and plasticizers • HARMON colors

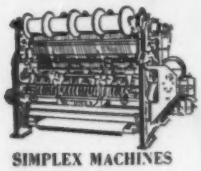
The Reiner Line:



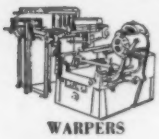
TRICOT MACHINES



RASCHEL MACHINES

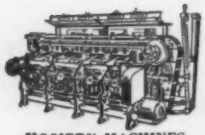


SIMPLEX MACHINES



WARPERS

CREELS



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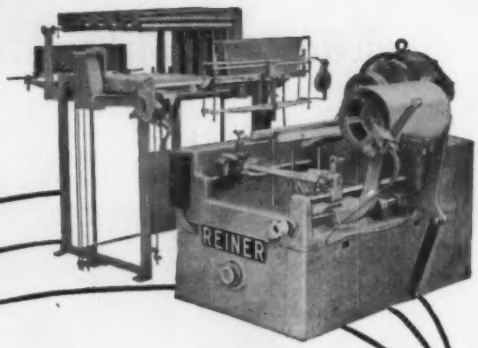
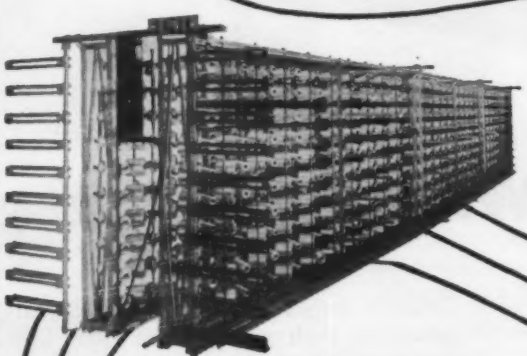
Reiner Warpers and Creels for the Knitting and Weaving trades

are suitable for all requirements or yarns. Many mill-tested features assure highest quality warps at top speeds for trouble-free knitting or weaving.

All Reiner units can be readily used with any other make equipment. Ask for fully detailed catalogs.





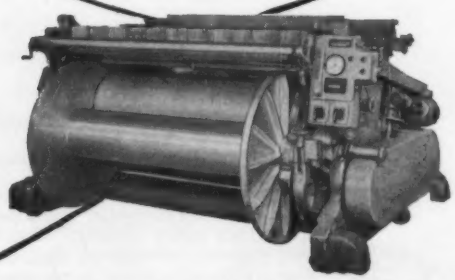
▲ REINER SECTIONAL WARPER

Spools up to 24" in length. Flange diameter up to 21". Adaptable to multiple spools for narrow fabrics. Other models up to 84" in length.

▲ REINER MAGAZINE CREELS

feature various stop motions, tension devices, balloon control. Suitable for all types of yarns and packages, including nylon pirns. Other Reiner Creels are Truck, Single Type, Heavy Duty, or to your specifications.

Ready spare part service available for all Reiner equipment.



▲ REINER HEAVY DUTY BEAMER

Flange diameters 26" to 36"—Length of beam to customers' specifications—Suitable for dye beams — Spindle drive — Rheostat controlled speed from 100 to 750 yards per minute—many other features.

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Presenting Interchemical's New Method—For Discharge Printing Acetate

Leading printers agree: "Interchemical's new method is unrivaled for producing discharge effects on acetate."

This new method now makes possible discharge prints in a wide range of clean, bright shades which cannot be obtained by conventional methods. They include brilliant shades of blue, green, aqua, turquoise, yellow, orange, and red.

Selected Aridye Colors and specially formulated Clears are used for producing the discharge effects on acetate grounds dyed with dischargeable Interchem Acetate Dyes. This new method has already proved useful on a wide range of acetate fabrics for dress goods and other uses.

With a modification of this method, the same excellent results can be obtained on rayon, spun rayon, and cotton.

For complete details on Interchemical's new method for discharge printing acetate, write or phone the Textile Colors Division office nearest you.

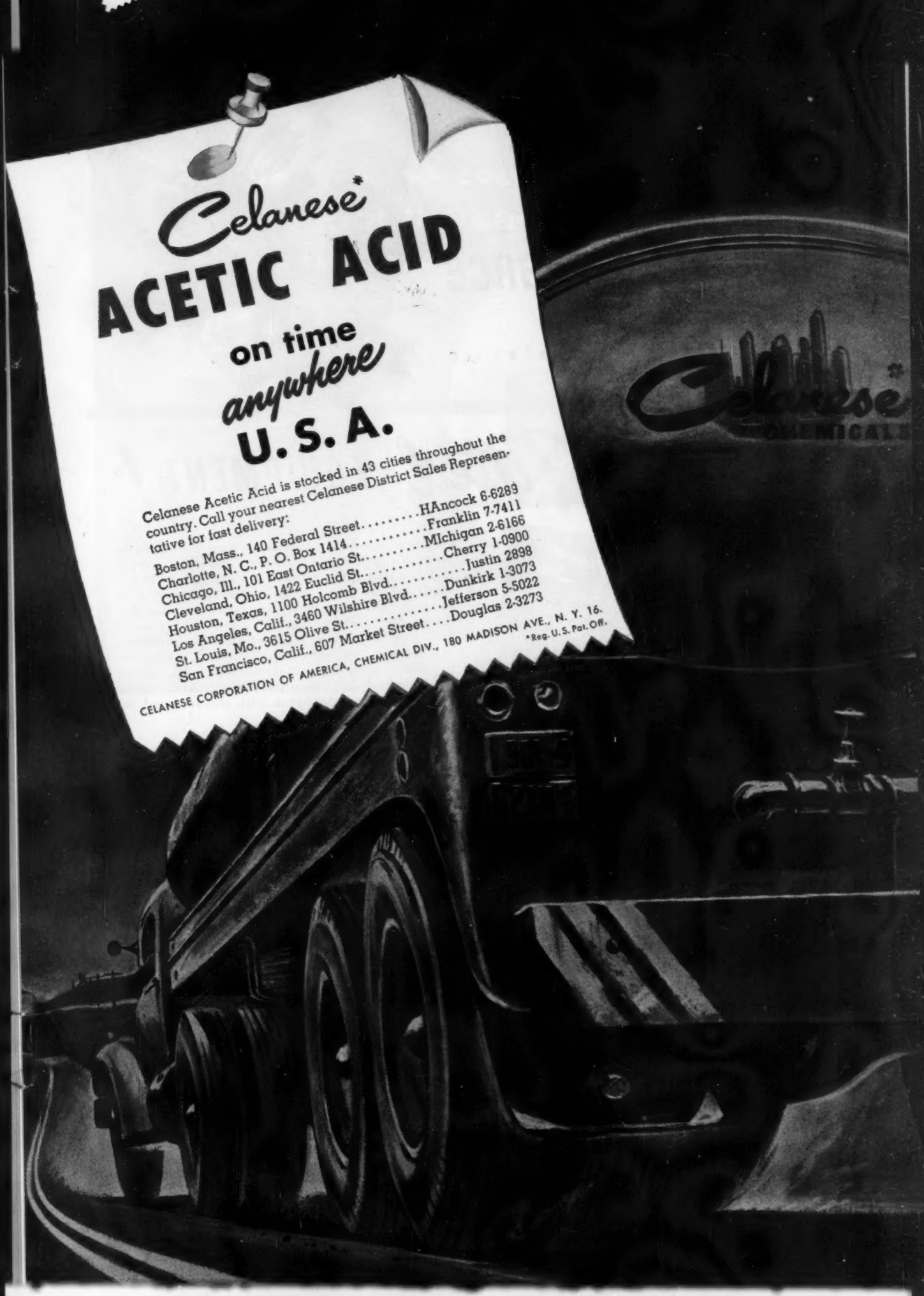
Aridye® COLORS

Interchem® Dyes

Interchemical Corporation

Pawtucket, R. I. HAWTHORNE, N. J. Rock Hill, S. C.

MAINTENANCE
MAINTENA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Celanese Acetic Acid is stocked in 43 cities throughout the country. Call your nearest Celanese District Sales Representative for fast delivery:
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Keep your floor-maintenance men happy . . .

with *Job-Fitted* EQUIPMENT!

Choose from the COMPLETE *Finnell Line*

More than a score of models and sizes permits selection of the equipment that's exactly right for your job!

However much a maintenance man may want to do a good job, and at the same time show savings in labor costs, he's *stymied* if the machine is too small, or too large, or is otherwise unsuited to the job. Different floors and areas call for different care and equipment. That's why *Finnell makes more than a score of floor-maintenance machines.* From this complete line, it is possible to choose equipment that is correct in size as well as model . . . that provides the maximum brush coverage consistent with the area and arrangement of the floors.

Finnell makes *Conventional Polishing-Scrubbing Machines* in both concentrated and divided-weight types, each in a full range of sizes . . . a *Dry-Scrubber*, with self-sharpening brushes, for cleaning grease-caked floors . . . *Combination Scrubber-Vac Machines* for small, vast, and intermediate operations, including gasoline as well as electric models . . . *Mop Trucks* . . . *Vacuum Cleaners* for wet and dry pick-up, including a model with By-Pass Motor. In addition, *Finnell* makes a full line of fast-acting *Cleansers* for machine-scrubbing . . . *Sealers* and *Waxes* of every requisite type . . . *Steel-Wool Pads*, and other accessories — *everything for floor care!*

In keeping with the *Finnell* policy of rendering an individualized service, *Finnell maintains a nation-wide staff of floor specialists and engineers. There's a Finnell man near you* to help solve your particular floor-maintenance problems . . . to train your operators in the proper use of *Finnell Job-Fitted Equipment and Supplies* . . . and to make periodic check-ups. For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1902 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

For more information, write direct or use Reader Service post card.

When you receive Franklin Process Colored Yarns in your mill, there's more than meets the eye. For instance, these hidden values count heavily, as well as the obvious quality of yarns and color:

1. AS YARN MERCHANTS, we select and purchase for your account the best yarn for the purpose, thus saving you time and trouble and centralizing responsibility.
2. YOUR YARN CAN BE DYED IN 2500 LB. BATCHES, if your requirements are sufficiently large, which simplifies color handling in your mill and practically eliminates the shade variation problem.
3. THE LARGEST PACKAGE DYEING CAPACITY IN THE WORLD, with 5 strategically located plants, and adequate, up-to-date winding equipment, makes for better than average deliveries.
4. UNMATCHED LABORATORY FACILITIES AND NEARLY HALF A CENTURY OF EXPERIENCE practically guarantee *consistent* quality in yarns and colors.

These hidden values often represent the difference to you between success and failure in making yarn dyed fabrics. They are available at no extra cost. Get in touch with our nearest plant the next time you need colored yarns.

Franklin Process

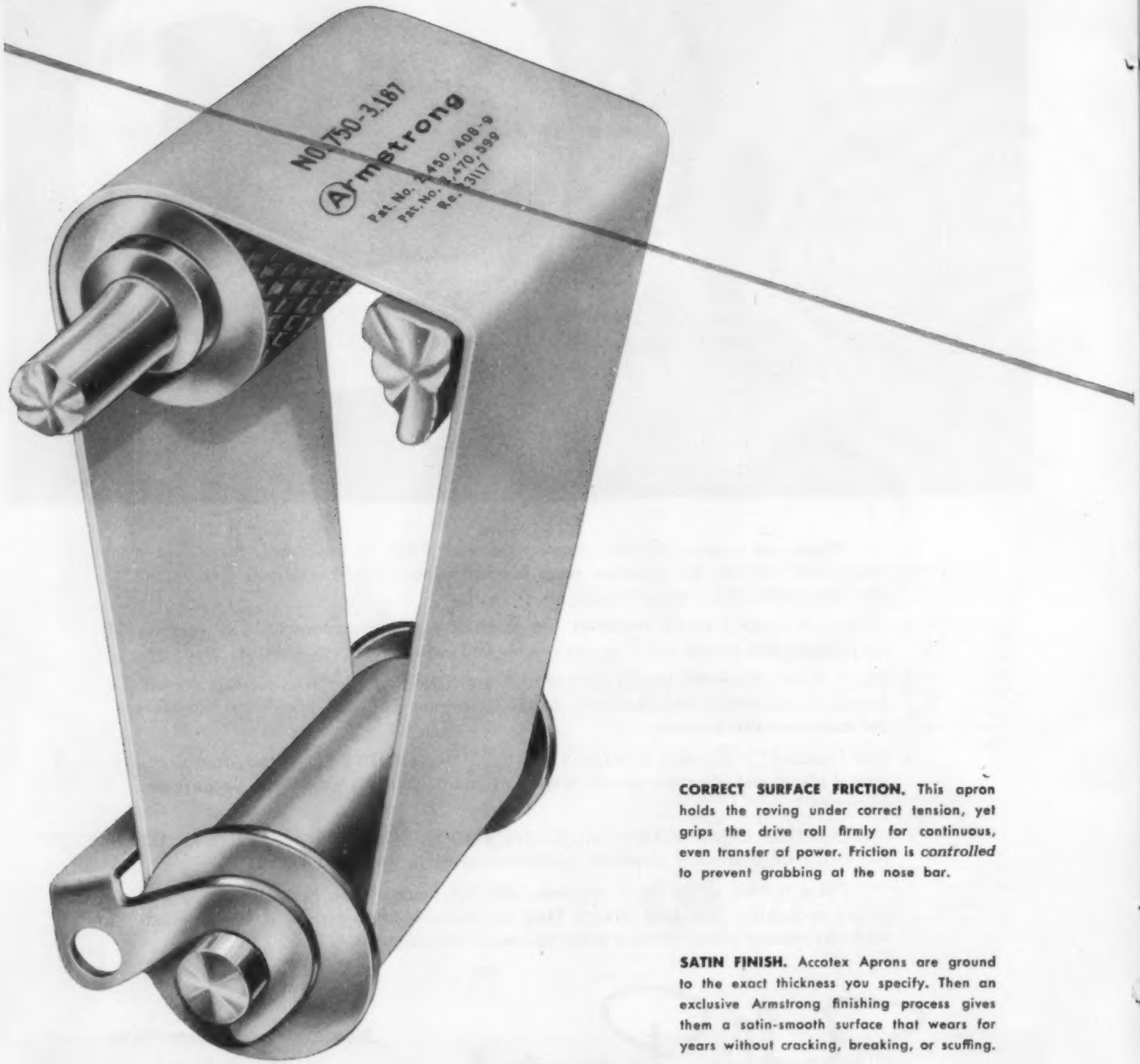
COTTON YARNS & CUSTOM YARN DYEING
LARGEST PACKAGE DYERS IN THE WORLD

New York Representative
40 Worth Street

PROVIDENCE
PHILADELPHIA • GREENVILLE
CHATTANOOGA • FINGERVILLE, S. C

 For more information, write direct or use Reader Service post card.

For smooth drafting action



CORRECT SURFACE FRICTION. This apron holds the roving under correct tension, yet grips the drive roll firmly for continuous, even transfer of power. Friction is *controlled* to prevent grabbing at the nose bar.

SATIN FINISH. Accotex Aprons are ground to the exact thickness you specify. Then an exclusive Armstrong finishing process gives them a satin-smooth surface that wears for years without cracking, breaking, or scuffing.

on single-apron equipment

SUPER-FLEXIBLE ACCOTEX NO-750 APRONS

To get the smooth drafting action that means top-quality yarn on single-apron equipment, many mills are switching to Armstrong NO-750 Accotex® Aprons. These aprons are made of a special rubber compound which combines the extra flexibility and correct surface friction needed to maintain good yarn control.

NO-750 Aprons are smooth enough to slip freely over the nose bar, yet they grip the drive roll firmly and deliver smooth, even drafting action. The seamless construction of NO-750 Aprons eliminates the bumping and buckling that can cause irregular drafting and uneven yarn.

Armstrong NO-750 Aprons have long life, too. Their surface is specially treated to resist abrasion and cracking, and a tough core of cotton cord prevents stretching and curling at the edges.

Try a few test frames of NO-750 Aprons yourself. Your Armstrong man will be glad to furnish samples. Get in touch with him or write us direct.

Send for booklet, "Armstrong Textile Roll Coverings and Mill Supplies." Gives suggestions on selection, installation, maintenance of Armstrong textile products. Write Armstrong Cork Company, Industrial Division, 6402 Dauphin Street, Lancaster, Pennsylvania.

FOR DOUBLE-APRON SPINNING, use the Armstrong NO-7075 Accotex Apron. White inside, black outside, it's designed to spin clean, uniform yarn on the latest long-draft equipment—year after year.

Armstrong Accotex Aprons

... used wherever performance counts

CRUCIBLE REZISTAL STAINLESS STEELS

SAVE MONEY ALL THROUGH THE

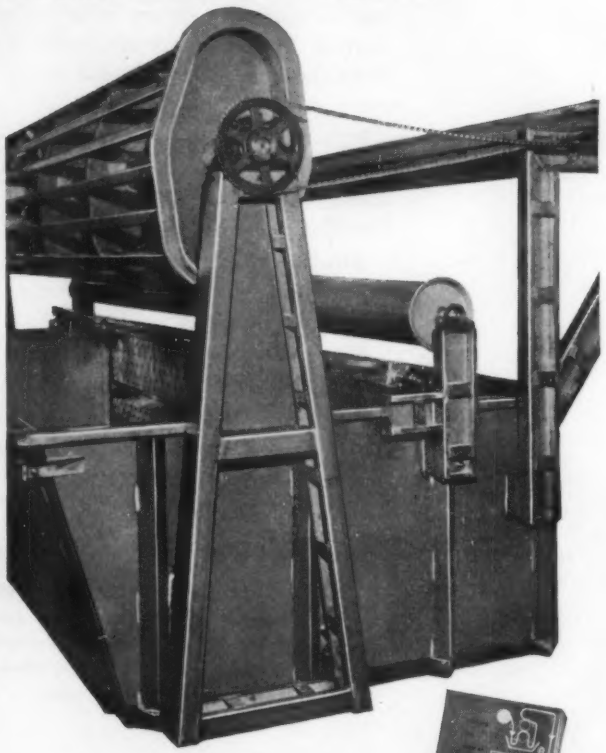
TEXTILE PLANT...

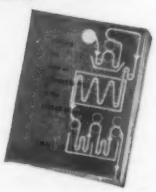
From control instruments to valves and piping . . . from aging to vacuum extracting . . . Crucible Rezistal® stainless steel equipment saves you money.

That's because stainless reduces maintenance and cleaning costs, increases production, and cuts down replacement or repair. And Crucible stainless steels are a perfect choice for operations involving corrosive materials.

It will pay you to check the need for stainless in your textile operations. New stainless machines, parts, hoods, ducts, drip guards or drains should be on your construction program in every case where they will pay their way in reduced operating costs.

In textile applications stainless is no luxury — in fact, it's the least expensive long-run material that money can buy. So let your Crucible representative help you explore new ways to cut costs with stainless.





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CRUCIBLE first name in special purpose steels

54 years of Fine steelmaking **STAINLESS STEELS**

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fewer ends down

power savings up—

since this leading southern mill* switched to

GULFSPIN

Mill personnel report these important benefits since switching to Gulfspin, the revolutionary spindle oil: (1) Deposits on bolsters and bases disappeared in a short time; (2) a big reduction in ends down; (3) upper spindle lubrication, formerly a constant worry, is now excellent; (4) spindles operate cooler and stay cleaner.

Periodic analyses prove that Gulfspin has not increased in viscosity, even though the spindle bases were last drained in 1947. Result: A substantial power saving.

Gulfspin works three ways to keep spindles clean and insure smoother spindle operation: First, it is oxidation stabilized to resist sludge formation. Second, it prevents contaminants from depositing on spindle parts, a major cause of spindle vibration. Third, it provides effective protection against rust—reduces bolster wear.

Contact a Gulf Sales Engineer at your nearest Gulf office today and give him a chance to prove these advantages of Gulfspin in your mill.

Gulf Oil Corporation • Gulf Refining Company • 1822 Gulf Building, Pittsburgh 30, Pa.

GULF

* name upon request

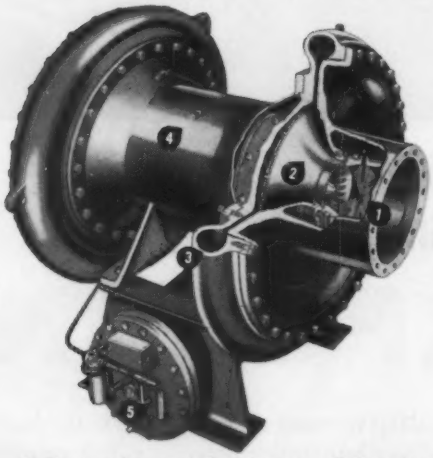
Now! Push-button air conditioning with...

Trane CenTraVac® for runs automatically

Fully automatic refrigeration unit, up to 400 tons capacity, starts at the touch of a button. Exclusive hermetic design and control system eliminates hours of purging and checking shaft seals before start-up, simplifies cooling system operation.

No shaft seals to cause Freon loss or require constant maintenance! All working parts hermetically sealed inside housing. *CenTraVac Freon charge guaranteed for one full year!* **Cuts operating costs!** CenTraVac automatically adjusts to varying cooling needs from 100% to 10% of capacity—with power savings in *almost direct proportion* to load. Saves up to 8% power compared with 4-step capacity control reciprocating compressor. Hermetic design eliminates power-wasting gearbox and ex-

These exclusive features save money



1. Variable inlet vanes.

2. Nonferrous impeller with radial blades.

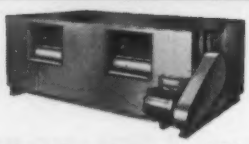
3. Volute housing. Carefully machined gas passages insure smooth gas flow.

4. Hermetically sealed motor.

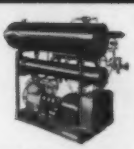
5. Forced-feed lubrication system. Pump located below normal oil level — assuring oil supply.

- **Most modern** centrifugal compressor in the industry . . . gives added insurance against obsolescence for years to come.
- **The only hermetic** centrifugal design. All working parts inside. Eliminates gearbox, expensive variable speed motor, shaft seals . . . saves up to 10% power costs.
- **Matches capacity to load** smoothly from 100% to 10% of capacity . . . saves power . . . boosts efficiency.
- **Unrivaled dependability** . . . longer service—only *one* major moving part.
- **Smoother control** . . . exclusive variable inlet vanes give finer modulation.

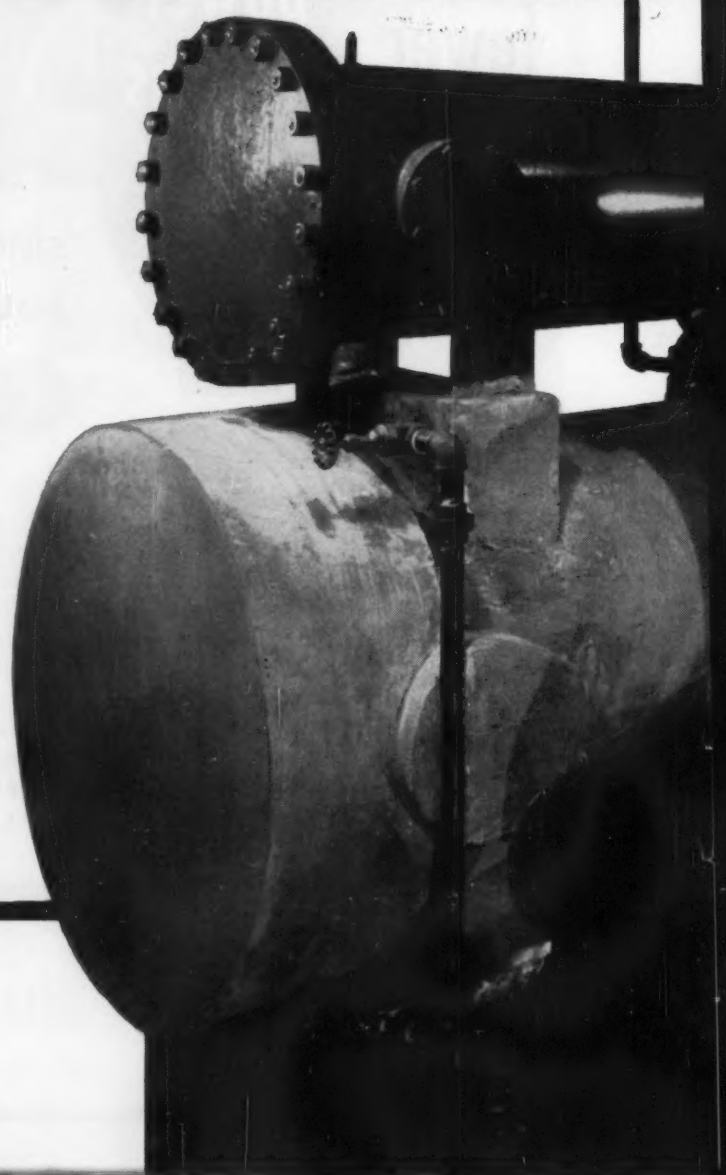
Here's low cost air conditioning. TRANE CenTraVac modulates from 100% down to 10% of capacity—with power savings in almost direct proportion. Now in 8 sizes, 45 to 400 tons capacity. Vibration-free operation, needs no special base.➔



TRANE Climate Changers—full line of factory-assembled air conditioners. 600 to 29,000 cfm.



TRANE Cold Generators—packaged water chillers from 10 to 100 tons capacity.



chilling water...starts, stops, ...no special attendant needed

pensive variable speed motor, thus producing outstanding economies in power consumption.

'Round-the-clock dependability—only one major moving part in the TRANE CenTraVac, heart of your air conditioning system. Simple, hermetically sealed centrifugal design means reliable air conditioning when you need it most . . . years of trouble-free operation.

For future expansion—TRANE CenTraVac refrigeration units can be sized for future plant expansion . . . *without sacrifice in present operating efficiency!*

For complete information on TRANE CenTraVac hermetic centrifugal refrigeration units, call your TRANE Sales Office or write TRANE, La Crosse, Wis.

one source one responsibility

TRANE

Refrigeration Equipment

for more dependable . . . lower cost air conditioning

MANUFACTURING ENGINEERS OF AIR CONDITIONING, HEATING, VENTILATING AND HEAT TRANSFER EQUIPMENT

The Trane Company, La Crosse, Wis. • East. Mfg. Div., Scranton, Penn. • Trane Co. of Canada, Ltd., Toronto • 90 U. S. and 14 Canadian Offices

tioners. 600 to 29,000 cfm. 100 tons capacity.

Technical Service Procedure Being Followed in The Development of Fabrics Made With

ARNEL†

TRIACETATE

Sample poundage of ARNEL has been shipped to a number of mills.

In general, such shipment has been confined to mills whose intended fabric types have been established by Celanese research as appropriate to the use of ARNEL.

When initial laboratory samples are complete, we are requesting an opportunity to check them informally and to offer whatever recommendations our experience in ARNEL fabrication may suggest.

Where definite problems exist, technical service teams are set up to work with the mill customer's own technical men, in their plant, to effect an early practical solution.

When production is started, we are requesting that first yardage again be submitted both in greige and finished state for a second check to assure that no new conditions have developed which might affect the wearability of the fabric.

As these fabrics are approved by Celanese they become eligible for the use of Celanese ARNEL hang tags and participation in Celanese promotional efforts.

We believe that by following these procedures, mills will be helped to avoid the pitfalls inherent in the handling of any new fiber, and that the public's important first experience with ARNEL will live up to the high promise which the nature of the fiber makes possible.

†Trademark

Celanese

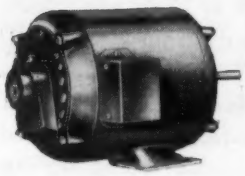
CORPORATION OF AMERICA, 180 MADISON AVENUE, N. Y. 16.

3 DAYTON PRODUCTS DESIGNED TO Step up

GET TOP PERFORMANCE FROM YOUR EQUIPMENT . . .

Choose Century MOTORS

From the Wide Range of Types of — In Sizes From 1/8 to 400 Horsepower



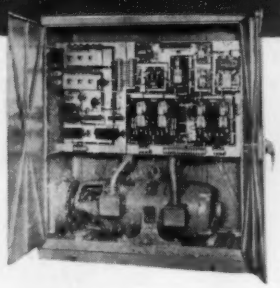
SINGLE PHASE:

Split Phase Induction—⅛, ¼, ⅓ H.P.

Capacitor—⅛ to 20 H.P.
Repulsion start, brush lifting, induction—½ to 7½ H.P.

Write for Bulletin Nos.:

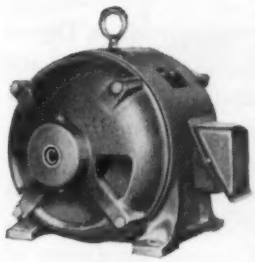
Split Phase 1-5P1
Capacitor 1-1P3
Repulsion Start 2-1P1



SELECTIVE SPEED DRIVE:

A complete line of adjustable speed drives for coordinating all kinds of production processes.

Write for Bulletin No. 11-1P1



POLYPHASE:

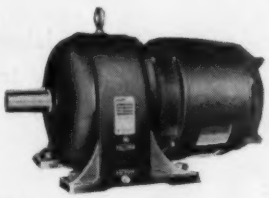
Squirrel Cage Induction—⅛ to 400 H.P.

Wound Rotor Motors—1 to 400 H.P.

Synchronous Motors—20 to 150 H.P.

Write for Bulletin Nos.:

Squirrel Cage, Drip Proof—6-1P1
Squirrel Cage, Splash Proof—6-1P3
Squirrel Cage, Enclosed Fan Cooled—6-1P41
Squirrel Cage, Explosion Proof—6-1P45
Wound Rotor—6-3P1

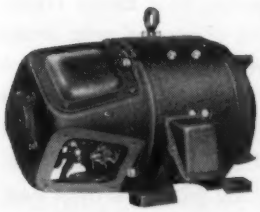


GEAR MOTORS:

⅛ to 15 H.P., single, double and triple gear reduction.

Write for Bulletin Nos.:

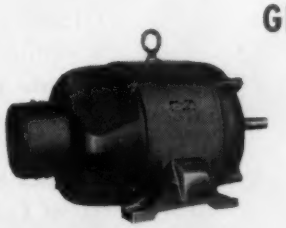
⅛ to ¾ H.P. . 4-5P21-61
1 to 15 H.P. . . 4-1P31



DIRECT CURRENT:

All capacities—⅛ to 300 H.P.

Write for Bulletin No. 10-1P1



GENERATORS:

AC, .63 to 250 KVA
DC, .75 to 200 KW

Write for Bulletin Nos.:

AC, .63 to 250 KVA—18-1P21
DC, .75 to 200 KW—18-1P1

CE-825R

Motors listed above are available in Open Rated Drip Proof, Splash Proof, Totally Enclosed Fan Cooled and Explosion Proof frames—and with a dozen different methods of mounting. They are unusually quiet starting and running and unusually free from vibration.

CENTURY ELECTRIC COMPANY
1806 Pine Street, St. Louis 3, Missouri
Offices and Stock Points in Principal Cities

Send the Coupon for Additional Facts

To CENTURY ELECTRIC COMPANY
1806 Pine Street, St. Louis 3, Mo.

Please send me the following bulletins:

(fill in numbers here) .....

Name..... Title.....

Company.....

Address.....

City..... Zone..... State.....

Weaving Room Efficiency

3 DAYTON PRODUCTS DESIGNED TO Step up

Get smoother, safer checking, reduced wear and higher loom production with Dayton Thorobred Loop

You'll handle your share of the new, profitable textile business with dispatch by equipping your looms with these 3 Dayton products scientifically designed to cut maintenance costs, improve output. Look at these money-saving features:

Dayton Thorobred Loop Pickers, for example, cut costs in many mills as much as 25 to 50%. That's because they're built to take the tremendous poundings of high speed shuttles. Tilted construction gives them a decided advantage because it assures perfect shuttle contact every time. Flaired bottom and tapered picker hole permit easy, accurate seating without tearing of loop ply. Made as a single unit, there's nothing to break or expand when picker is driven on stick. A narrow back provides non-wear feature on lay end strap.

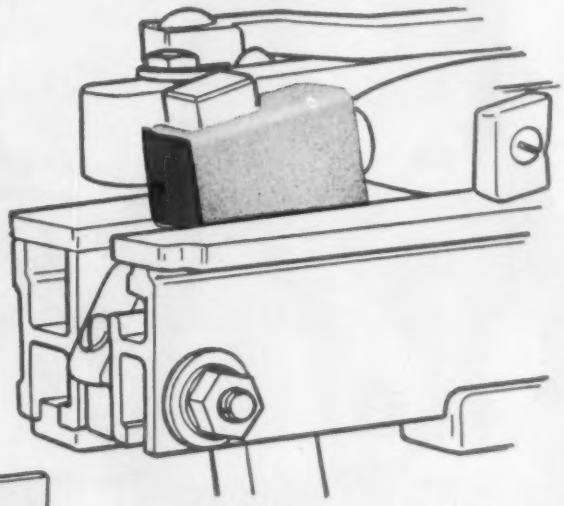
Most revolutionary of all textile products, Dayton ThoroCheck Check Straps offer real economy and service. Typical of their performance Dayton Check Straps, in test on X-2 looms, have seen round-the-clock service, 5 days a week, for over 9 months without visible signs of wear. Under similar conditions other straps lasted only 2 to 3 months. The savings on replacement alone paid for the installation of Dayton ThoroCheck Endless Check Straps. Because they are unaffected by moisture or humidity, they need practically no adjustment. This means higher production, more productive hours for your looms when equipped with Dayton ThoroCheck Endless Check Straps.

Dayton Thorobred Deluxe Lug Straps are specially constructed in one piece, with built-in molded plug, to cushion the shock of jarring picking thrusts. Easy to apply, Dayton Lug Straps have no permanent stretch when installed and are so designed as to offer less abrasive action on picker stick and hold-up strap. In addition, Dayton Lug Straps are unaffected by temperature and humidity and they resist oils and greases. In tests, Dayton Thorobred Deluxe Lug Straps have averaged twice the service life of any other strap on the market.

Put them all together and you've got an unbeatable combination that will outperform all other similar products on the market. For full capacity operation in your weaving room—equip throughout with synthetic rubber Dayton Loop Pickers, Check Straps and Lug Straps.

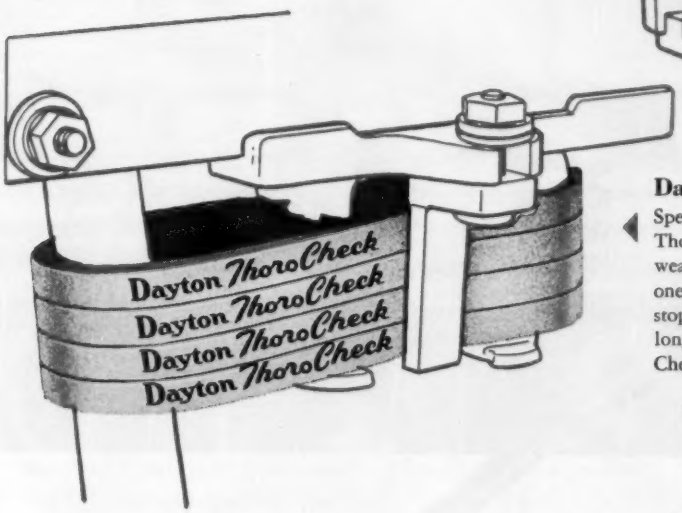
Weaving Room Efficiency

Pickers, Dayton ThoroCheck Endless Check Straps and Dayton Thorobred Deluxe Lug Straps.



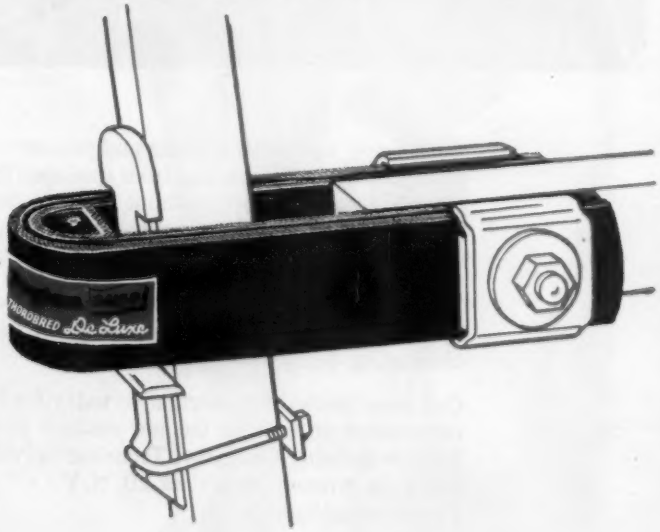
Dayton Thorobred Loop Pickers

Made of a specially woven fabric Dayton Pickers are built to stand up for long periods under the poundings of high-speed shuttles. Exterior roughness has been reduced to a minimum to prevent hanging filling and lint pick-up. Daytons are always uniform in size . . . cut picker cost 50%, seat easily on picker stick and offer perfect shuttle contact at all times.



Dayton ThoroCheck Endless Check Straps

Specially designed and built to exacting standards Dayton ThoroCheck Check Straps save important time and money in weaving operations . . . outlast other check straps 2 & 3 to one. Daytons check more smoothly, eliminate drag over stick, stop it with a graduated braking action. Result: less wear, longer life and lower replacement costs with Dayton ThoroCheck Endless Check Straps.



Dayton Thorobred Deluxe Lug Straps

Built in 1 piece with molded plug to cushion picker thrusts, Dayton Lug Straps have no rivets or other parts to work loose. Special longitudinal cord built into center of lug, in line with thrust, gives Daytons added strength, longer life . . . prevents jarring and protects costly loom parts. Easy to apply, Dayton Thorobred Deluxe Lug Straps last twice as long as other straps in actual test operations.

Get set now to keep looms running at capacity—equip throughout with Dayton Loop Pickers, Endless ThoroChecks and Deluxe Lug Straps. Your Dayton representative will be glad to give you complete details. Or write Dayton Rubber Co., Textile Div., Dept. 342, Woodside Bldg., Greenville, S. C.

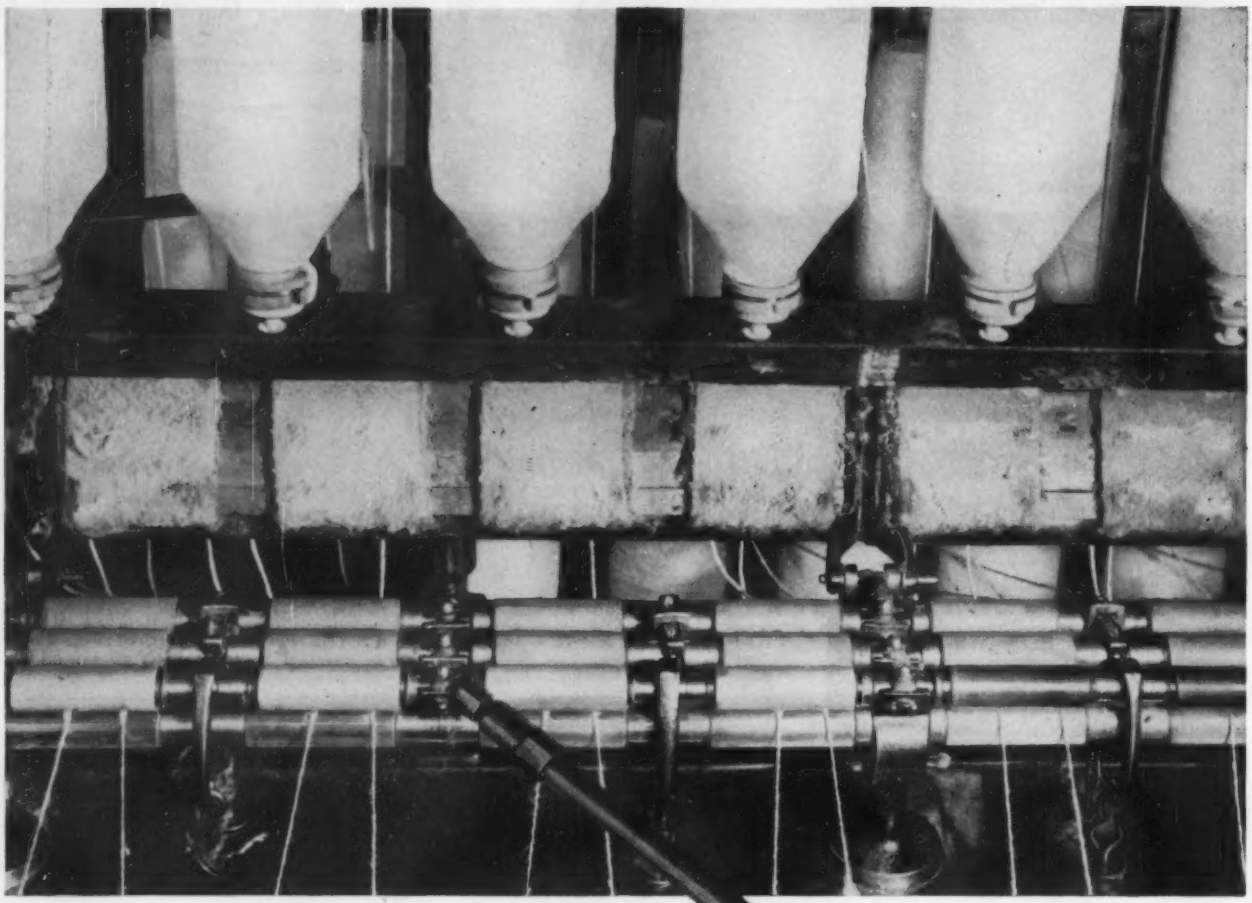
Dayton Rubber

Since 1905

Dayco and Dayton Thorobred Textile Products for better Spinning and Weaving

Dayton Rubber Co., Textile Division, Woodside Bldg., Greenville, S. C.

WON'T DRIP!



Switch now to Sinclair NO-DRIP and protect your yarn and roll coverings from spoilage. This fine lubricant *stays in place,* without creep or drip—permitting rolls to turn smoothly without drag, providing even draft . . . and *saving wear.*

Sinclair NO-DRIP Lubricants can *save you money* by assuring smooth operation, low maintenance . . . eliminating costly spoilage and repairs.

Call your Sinclair Representative today for further information or write for the new NO-DRIP pamphlet to Sinclair Refining Company, Technical Service Division, 600 Fifth Avenue, New York 20, N. Y.
There's no obligation.

SINCLAIR NO-DRIP

TEXTILE LUBRICANTS

Easy application of fast colors with Du Pont *Capracyl** dyes for wool

The essentially neutral dyeing, metalized Du Pont "CAPRACYL" colors are applied to wool in a short dyeing cycle. They require little or no chemical aids for exhaustion. This means you benefit from savings in time, chemicals, and labor. And the natural strength, beauty, and resiliency of the wool fibers are protected.

Du Pont "CAPRACYL" dyes offer a combination of good wet fastness and excellent light fastness. You'll find them ideal for worsted men's wear, sportswear, auto upholstery, and carpets, and many other fabrics where exposure to light is an important factor.

Even on "tippy" wool, the "CAPRACYL" dyes cover and penetrate well . . . produce level dyeings with proper application methods.

Du Pont has prepared a booklet, "'THE 'CAPRACYL' DYES," with technical information on the properties and dyeing characteristics of these new dyes. For your copy . . . or for help on *any* dyeing problem . . . write E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Del.

*REG. U. S. PAT. OFF.

DU PONT
REG. U. S. PAT. OFF.

Du Pont Dyes

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

HOW TO BUY RUBBER COVERED ROLLS

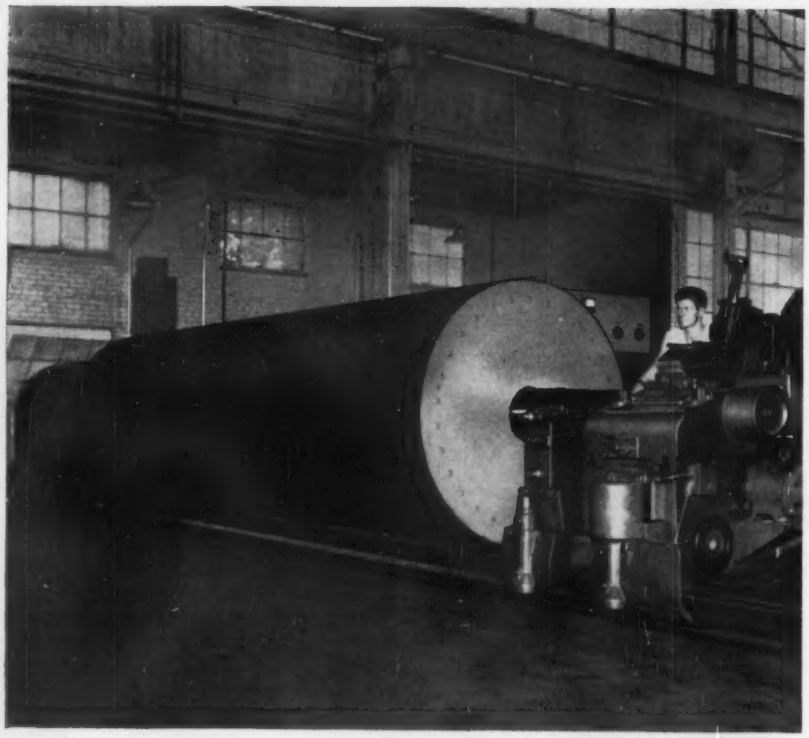
TO MEET SPECIAL ROLL REQUIREMENTS

. . . and get "More Use per Dollar"

Insist on roll covering that is custom-made by roll covering specialists . . . with large, up-to-date equipment and facilities.

Separation of the rubber from the metal core is a primary cause of failure with ordinary rubber covered rolls. Look for a company who has developed a superior rubber to metal bond that prevents cover separation. Make certain the company that handles your roll covering job has the specialized experience and know-how for producing the correct rubber compound for your requirements to prevent cracking, hardening, corrugation and oxidation. Be sure they have the facilities to handle your job regardless of size. Determine whether they have the modern equipment to vulcanize and grind your roll covering to the precise diameter you require . . . to insure uniform and permanent density for your operations.

Specify rubber covered rolls custom-made to meet your specific operating conditions . . . specify Manhattan Rubber Covered Rolls.



Largest grinder and largest roll covered in U. S. Grinder can take rolls 35 ft. x 62" diameter.

MANHATTAN RUBBER COVERED ROLLS

Over 60 years of experience is ready to serve you at Manhattan for the development and production of roll coverings to meet the special needs of your plant. Manhattan roll covering specialists have developed an inseparable bond of rubber to metal core and roll cover compounds that virtually eliminate troubles due to cracking, hardening or corrugating. Modern precision roll grinding and vulcanizing facilities can handle the largest rolls made and insure accuracy of dimension within .002". Custom-made to give you uniform production quality, Manhattan Rubber Covered Rolls assure permanent density and long, trouble-free service under all working conditions. Discuss your job requirements with an R/M roll covering specialist. He'll tell you why Manhattan Rubber Covered Rolls last much longer . . . give you "More Use per Dollar".

RM-518

ROLL COVERING PLANTS AT PASSAIC, N. J. — NEENAH, WIS. — NORTH CHARLESTON, S. C.

MANHATTAN RUBBER DIVISION — PASSAIC, NEW JERSEY

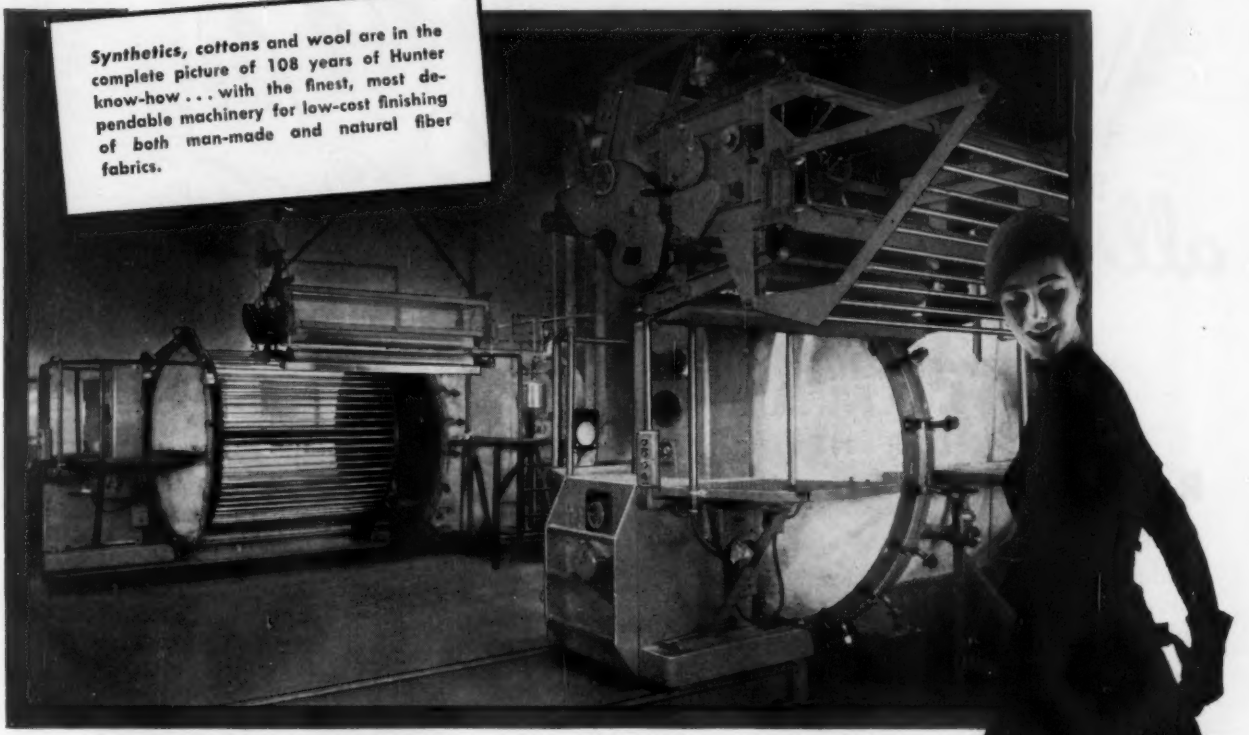
RAYBESTOS-MANHATTAN, INC.

Other R/M products include: Industrial Rubber • Fan Belts • Radiator Hose • Brake Linings • Brake Blocks • Clutch Facings
Asbestos Textiles • Packings • Engineered Plastic, and Sintered Metal Products • Bowling Balls

For more information, write direct or use Reader Service post card.

HUNTER *equipment assures Efficient...Economical piece dyeing at* ABBEVILLE!

Synthetics, cottons and wool are in the complete picture of 108 years of Hunter know-how . . . with the finest, most dependable machinery for low-cost finishing of both man-made and natural fiber fabrics.



Installation photo shows two HUNTER BAROTORS* at Abbeville Mills Corporation. The Hunter Barotor gets results never before possible in piece dyeing: ***produces more uniform dyeing • eliminates rope marks because goods are kept open width • reduces time of dyeing cycle • reduces chemical costs*** . . . And we know at least *15* other reasons why the Hunter Barotor is the only machine that can give you *complete* satisfaction in dyeing *all* synthetics and natural fibers. To find out what these money-saving reasons are, send today for the Hunter Barotor Bulletin BAR 7.

THE EXCLUSIVE HUNTER LOADING DEVICE

loads and unloads twice as fast as slower manual methods. Another Hunter "first" to help you increase production and cut labor costs.

★ ★ ★

*Manufactured under license from E. I. duPont deNemours & Company . . . patents pending by duPont and James Hunter Machine Company.

plus production

+ efficient operation of modern equipment
+ less down time of equipment
+ quick, easy repair . . . rapid parts delivery

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all ^ eyes are on . . .

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CYLINDER NEEDLE
Revolving Fabric Machine

If it's "ayes" you want to help you determine the best production unit for your long-range plans, consider this machine, used by producers to process millions of units for the modern markets.

Technically, for your production planning, the inherent features of this machine may be of interest:

SEVERAL MECHANISMS APPLICABLE ACCORDING TO MACHINE DESIGN

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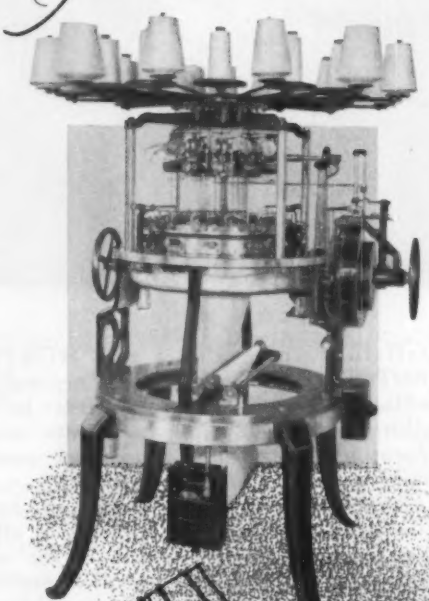
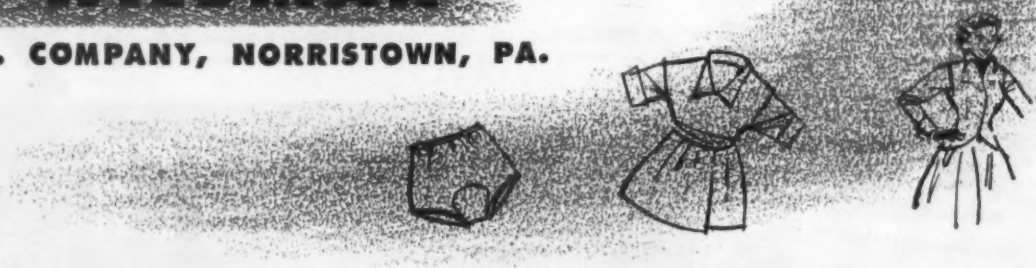
Check specifications for your needs.
Inquire today for complete information.



WILDMAN
MFG. COMPANY, NORRISTOWN, PA.



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Here's why you can cut wet-processing costs

You can make substantial economies in wet-processing costs by using this new highly-active form of Nacconol. Your detergent-materials cost is less because on an equivalent active-ingredient basis Nacconol SL is a better money-value than most dry products.

and

You save on handling costs, too. Nacconol SL is easy and clean to handle, requires no dissolving. You simply add water to get the desired working concentration.

See for yourself how Nacconol SL can save time and money and give you a better end-result as well. Write or phone our nearest branch for a test-sample today.

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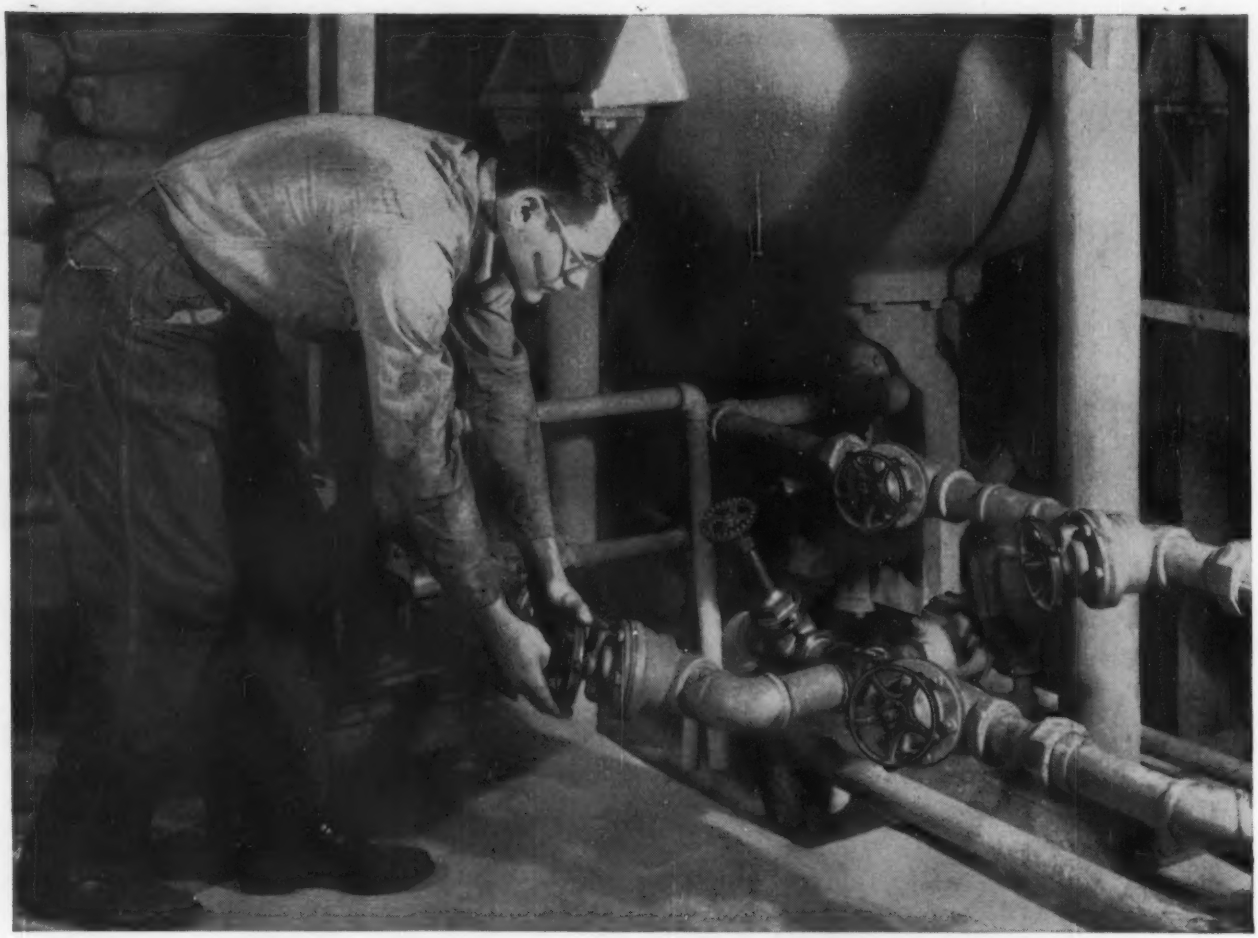
REMINDER!

☐ PLEASE SEND A SAMPLE OF NACCONOL SL

☐ PLEASE SEND TECHNICAL BULLETIN #326

Knit Goods



Heavy fluids can't hinder working parts in these CRANE VALVES

THIS CASE HISTORY tells how the United States Playing Card Co., Cincinnati, solved—with Crane Diaphragm Valves—a costly problem of piping heavy enamels for paper coating.

The trouble was in the plug cocks and conventional gate valves formerly used in the enamel lines. During normal shutdowns the heavy liquid would build up on seating surfaces, in stem threads and working parts. The cocks and gates would "freeze up" . . . were hard to operate . . . couldn't be shut tight. The condition hampered production . . . made floors messy and dangerous . . . pushed maintenance costs sky-high.

Replacing with Crane Packless Diaphragm Valves stopped the trouble completely. Their sealed-to-fluid bonnet and pliable neoprene disc insert did the trick. After more than 4 years, all 48 Crane valves installed—with no maintenance whatsoever—are still seating tight . . . still operating freely and smoothly.

CRANE PACKLESS DIAPHRAGM VALVES

Working parts are safely out of contact with line fluid. The diaphragm seals the bonnet—that's all it does, giving it longer life. The independent disc with pliable insert seats tightly on foreign particles or seat deposits . . . and controls fluid, even should diaphragm fail. See your Crane Catalog or Crane Representative for wide selection of body, bonnet, and trim materials in these valves for countless uses.

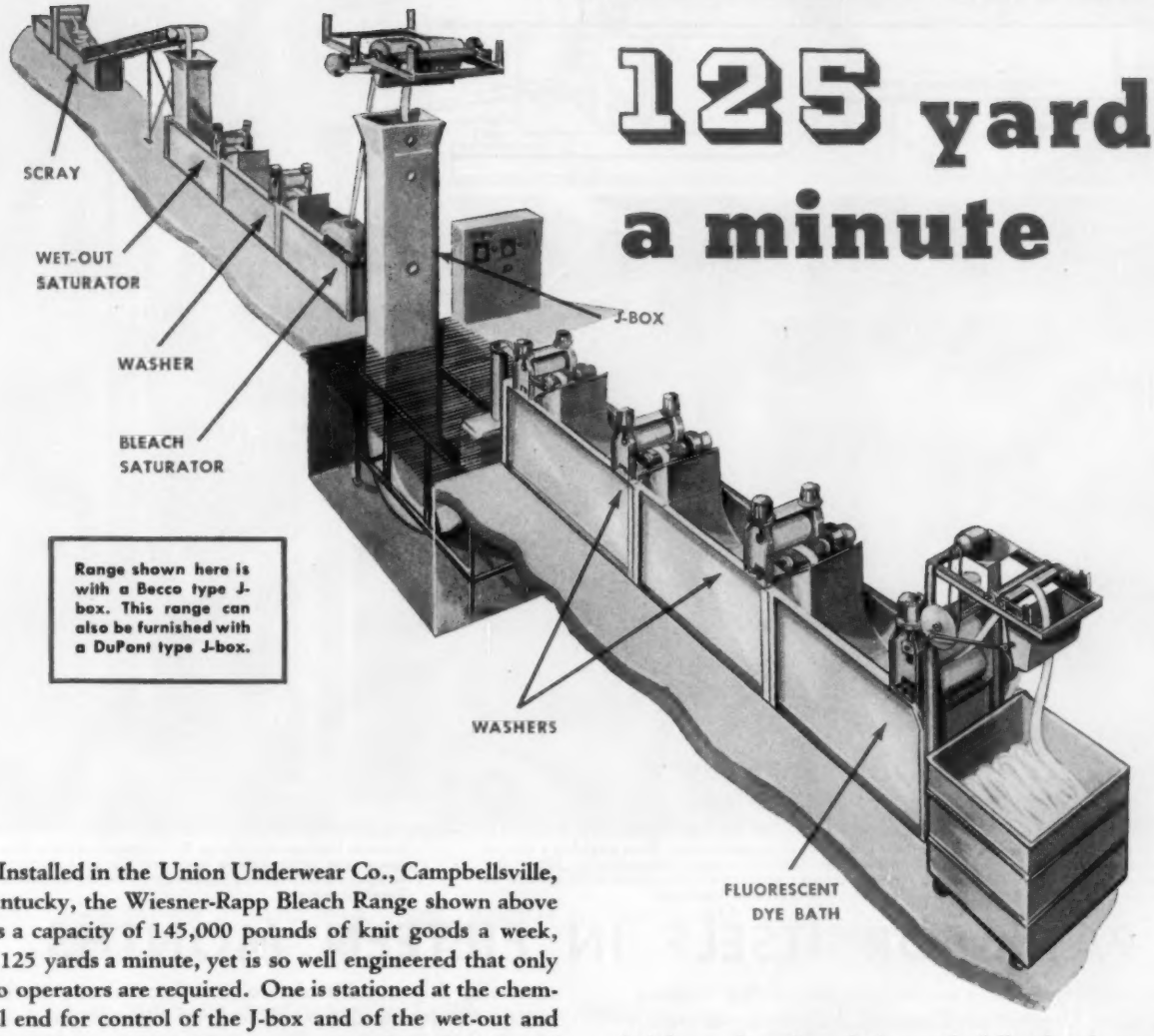
CRANE CO.

General Offices: 836 S. Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • KITCHENS • PLUMBING • HEATING

CRANE'S FIRST CENTURY . . . 1855-1955

Knit Goods Processed at 125 yards a minute

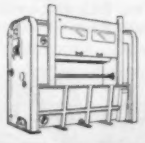


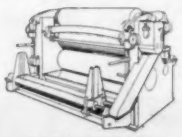
Range shown here is with a Becco type J-box. This range can also be furnished with a DuPont type J-box.

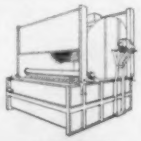
Installed in the Union Underwear Co., Campbellsville, Kentucky, the Wiesner-Rapp Bleach Range shown above has a capacity of 145,000 pounds of knit goods a week, or 125 yards a minute, yet is so well engineered that only two operators are required. One is stationed at the chemical end for control of the J-box and of the wet-out and chemical saturators; the other operator is at the exit end to control washers, fluorescent baths and delivery. The stainless steel units are compactly built in a straight line, 88 feet long, to avoid turns which might possibly distort the cloth. The complete bleach and wash cycle requires only one hour. Running speeds of each section are independently controlled from separate control panels.

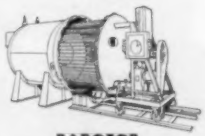
Here is a bleach range that minimizes tension and shrinkage. It makes cloth wonderfully absorbent, soft, and uniformly white. Knit goods bleached by the continuous process has a better hand and is more uniform in quality than goods finished by kier bleaching. And, this Wiesner-Rapp range smooths out many production problems by keeping cutters and sewers well supplied with finished material. For further information, consult Wiesner-Rapp Co., whose technical staff is always ready to help you.

OTHER WIESNER-RAPP MACHINES


TIGHT-STRAND WASHER

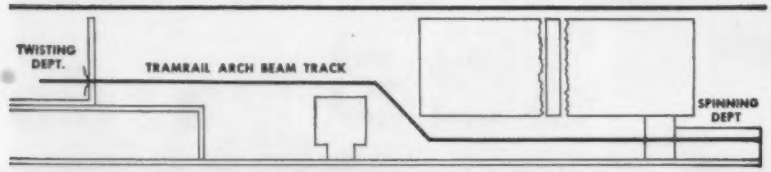

3-ROLL PADDER

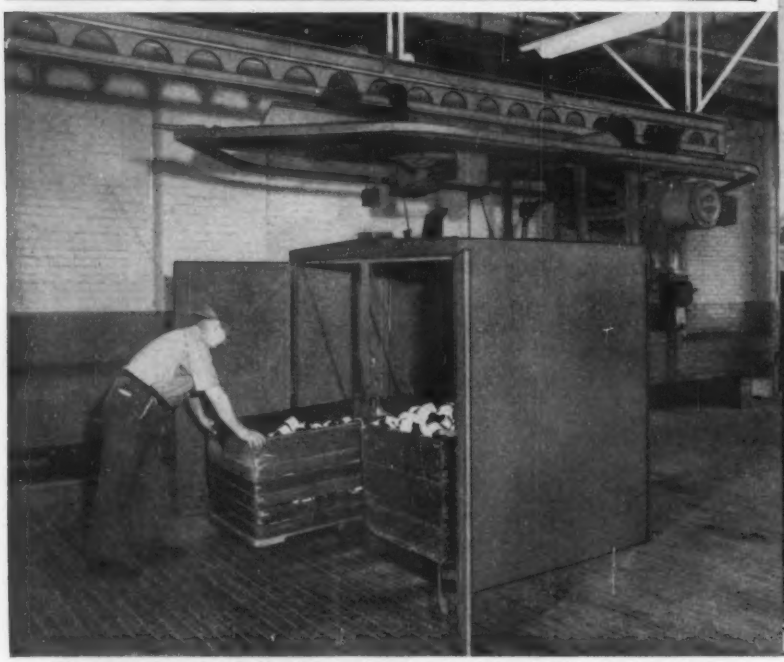

DYE BECK


BAROTOR

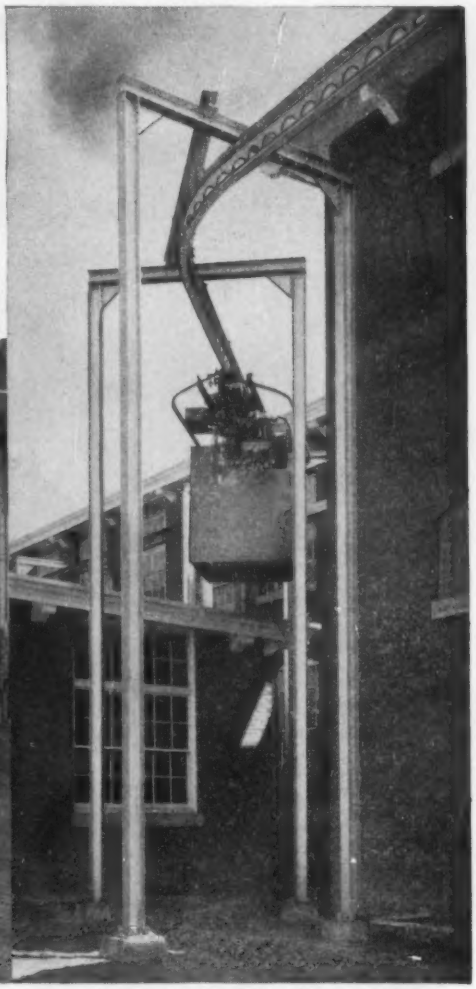
THE WIESNER-RAPP CO., INC.
1606 SENECA ST., BUFFALO 10, N. Y.
Manufacturers of Wet-Finishing and Dyeing Machinery

$15,000 AUTOMATIC DISPATCH SYSTEM





The carrier operates only after the van doors are closed firmly. Then pushing a button starts it on its way. Building doors are opened and closed automatically. When the carrier reaches its destination, it simply stops and remains in place until loaded or unloaded. Depressing a button returns it to the other building.



Enroute between buildings. Note how out-of-the-way space that ordinarily is unusable for any purpose serves as a satisfactory right-of-way for an automatic Tramrail system.

PAYS FOR ITSELF IN FIFTEEN MONTHS

Big savings almost invariably follow the installation of a Cleveland Tramrail automatic dispatch system. This holds true for the installation at Erlanger Mills, Inc., Lexington, N. C. Because of time saved, the entire cost of the equipment was paid for in less than fifteen months. But this was not the only saving. Savings in a year from elimination of truck wear on the floors are estimated to amount to as much as the cost of the system.

The system handles boxes of bobbins from the spinning department on the first floor of one building to the twisting department on the second floor of another building. The vast amount of tedious manual trucking formerly required has been eliminated. Regardless of weather condition, season of year, or time of day or night, the automatic system hauls its loads unhampered. No men are needed especially for this work since men in both buildings can take care of the simple task of loading and unloading the Tramrail van along with their regular work.

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THE CLEVELAND CRANE & ENGINEERING CO.
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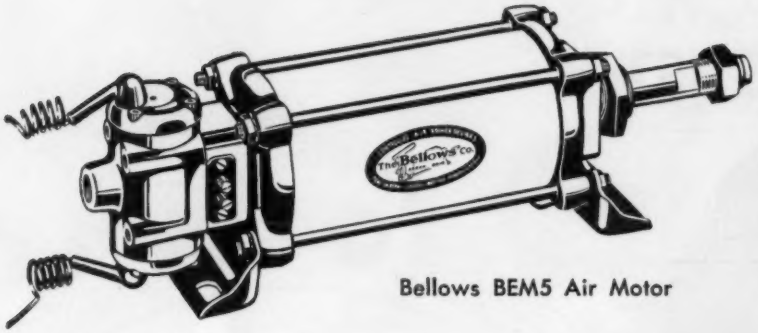
CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT



Bellows BEM5 Air Motor

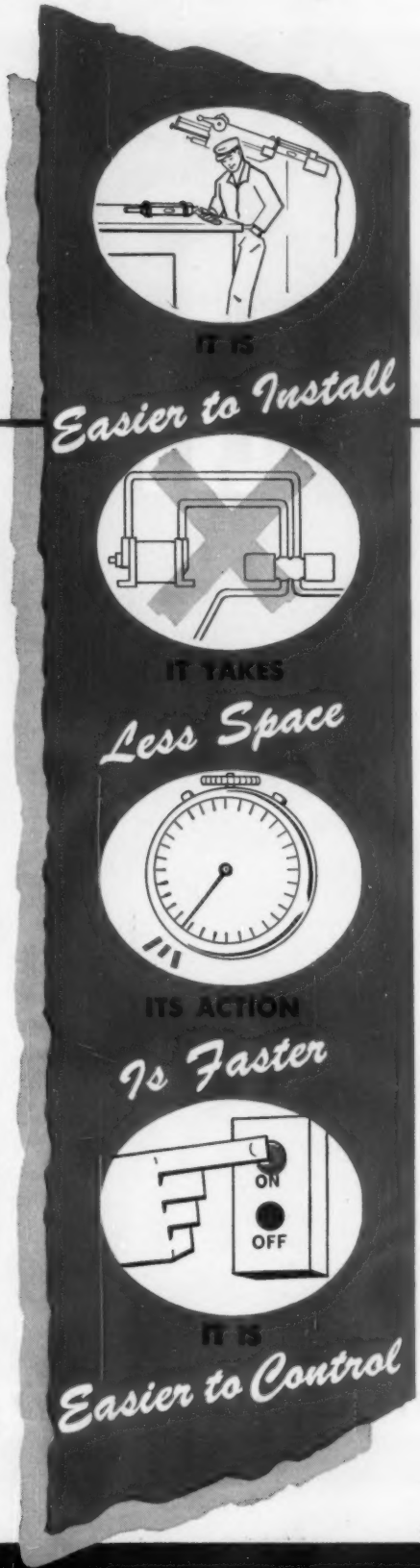
WHY YOU SHOULD BUY the AIR CYLINDER with the Built-in Valve

When it comes to down-right value, the Bellows Air Motor (the air cylinder with the built-in valve) tops them all for both standard air cylinder operations or as a component in new design applications. Not only are you buying a precision-built power unit — but you are buying a complete power unit. No extra valves to buy —dual speed control valves as well as directional valve are integral with the cylinder; no cumbersome, complex piping to install—a single, flexible air hose is all the hook-up you'll need.

You can have your choice of built-in directional valves: 110 volt or 8 volt electrical control, standard or explosion-proof, manual control, or air poppet valve control. Five bore sizes: 1¼", 1¾", 2½", 3⅝", and 4½". Any stroke length.

WRITE FOR THESE TWO BULLETINS:

Contain full data and specifications on Bellows Air Motors. Free. Address Dept. TW-255 The Bellows Co. Akron 9, Ohio. In Canada: Bellows Pneumatic Devices of Canada, Ltd. Toronto.



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You can expect this NEW Nylon Staple by IRC to give you the same cost-cutting uniformity and performance that industry depends on with IRC rayon yarns.

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Today corduroy belongs to everyone—and is as much valued for its ruggedness as for its beauty. Thanks to modern textile manufacturing methods, corduroy can be woven to meet virtually every need. Used for coats, dresses, sports clothes, draperies, upholstery material—it is an outstanding example of textile manufacturing progress.

Exactly right for today's textile requirements are Staley's sizing and finishing starches. Scientifically formulated to give you the exact weight and uniformity you need, Staley's starches insure you better, more economical results. For more information, write today.

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Staley Sizing and Finishing Starches for Every Need...

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JENKINS REGRIND-RENEW PLUG TYPE VALVES WITH

500 BRINELL *Armor Seat*

Armored against valve-killing close control of steam . . . and abrasion

Plug and seat ring are Jenkins JX500, a stainless chromium alloy steel made to Jenkins high strength specifications, heat-treated to 500 Brinell hardness. Seating surfaces are super-hard and mirror-smooth, offer highest resistance to galling, cutting, abrasion, and erosion . . . and "wire drawing" effects of close regulation of steam.

300 lb. 200 lb. 150 lb.
Globe and Angle

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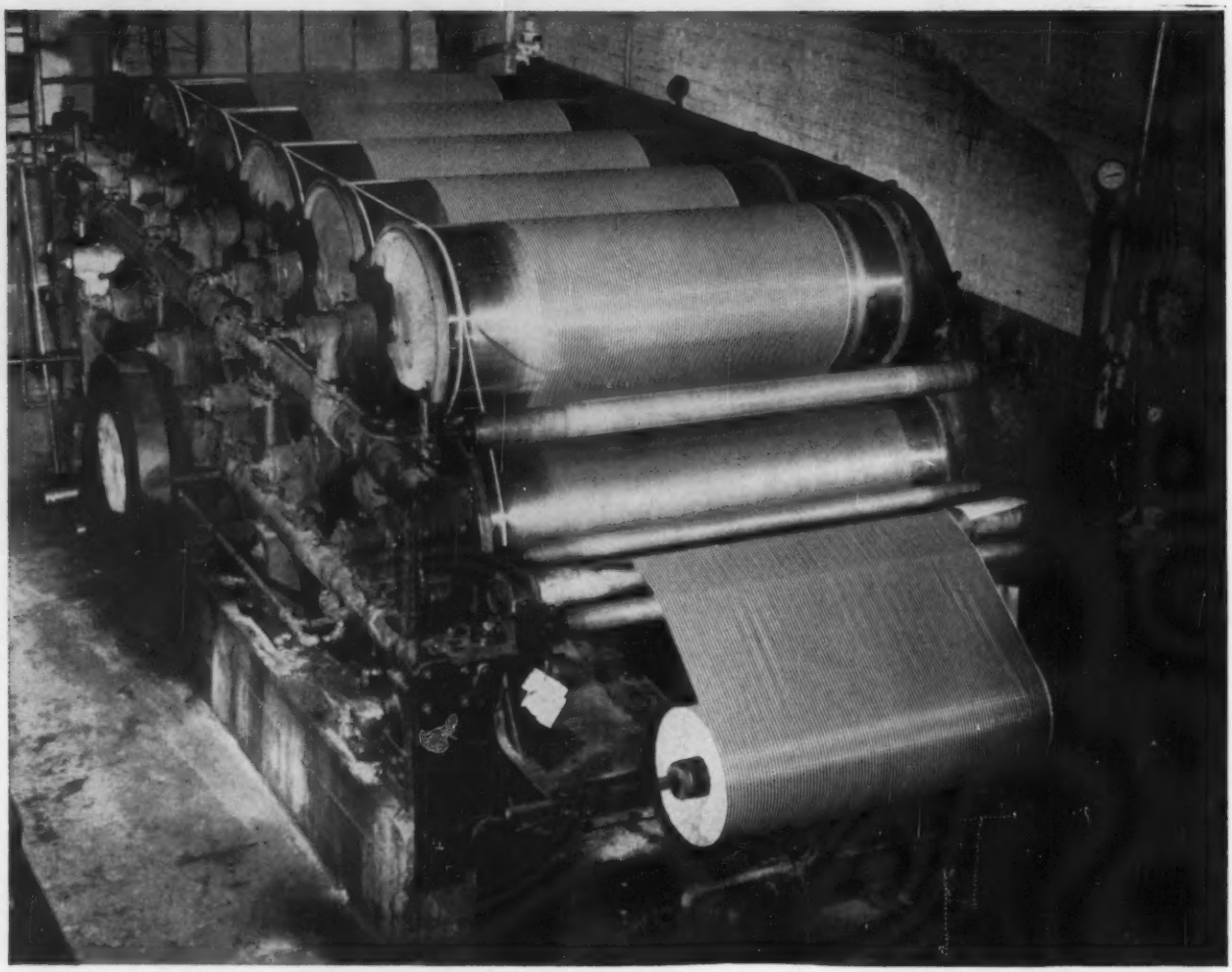
JENKINS VALVES SINCE 1864 TRADE JENKINS MARK

LOOK FOR THE JENKINS DIAMOND *Jenkins Bros*



In service 18 years...and still in good condition

Installed in 1935, Type 304 stainless steel dry cans in this textile drying system still give top-notch service in a well-known Eastern piece dye works. The cans are under steam pressure of 14.9 psi.

In many drying systems Armco Stainless Steels assure greater efficiency. Stainless conducts sufficient heat for drying at normal speeds. But it doesn't waste fuel dollars by conducting far more heat than is needed.

The high strength of Armco Stainless Steels makes it easy to design for high pressures in accordance with A.S.M.E. unfired pressure-vessel codes.

Easy to Clean

The hard, smooth surface of this solid, corrosion-resisting steel is exceptionally easy to clean. It also resists denting and scratching.

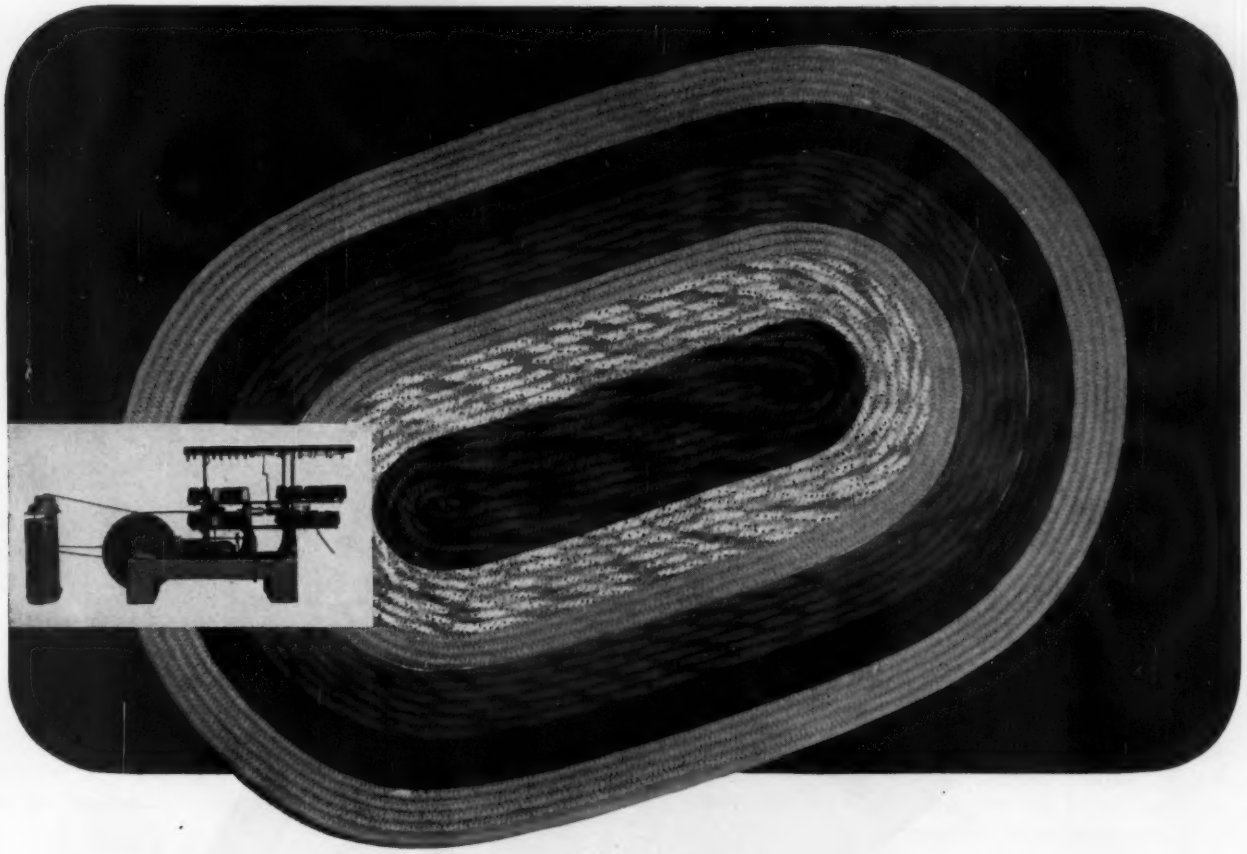
In bleaching and dyeing equipment, too, Armco Stainless Steels step up efficiency, keep production costs down. Delicate colors are not affected by chemical reaction on sensitive dyes. No "corrections"—no boil-outs are needed before changing chemicals.

Let your equipment supplier show you how other mills are profiting from the use of Armco Stainless Steels. There is a grade for practically every application.

ARMCO STEEL CORPORATION

5013 Curtis Street, Middletown, Ohio
Export: The Armco International Corporation

ARMCO



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IT'S KNITTED!

...WITH THE FIDELITY HIGH-SPEED KNITTER

Now you can knit rugs continuously in unique pattern designs in a fraction of the time it would take to braid them—and reduce your labor and operating costs, too. Unusual safety features and fully automatic electric stop motions for yarn and filler supply add to the simplicity of operation. Yarns used as purchased in cones, eliminate costly rewinding.

Write today for additional information about fast, economical production of quality rugs by the High-Speed Fidelity Knit method. See the Fidelity High-Speed Knitter in operation in the new showrooms at our Philadelphia plant.

Designers and Builders of Intricate, Automatic Precision Machines

SINCE 1911

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Canadian Representative:
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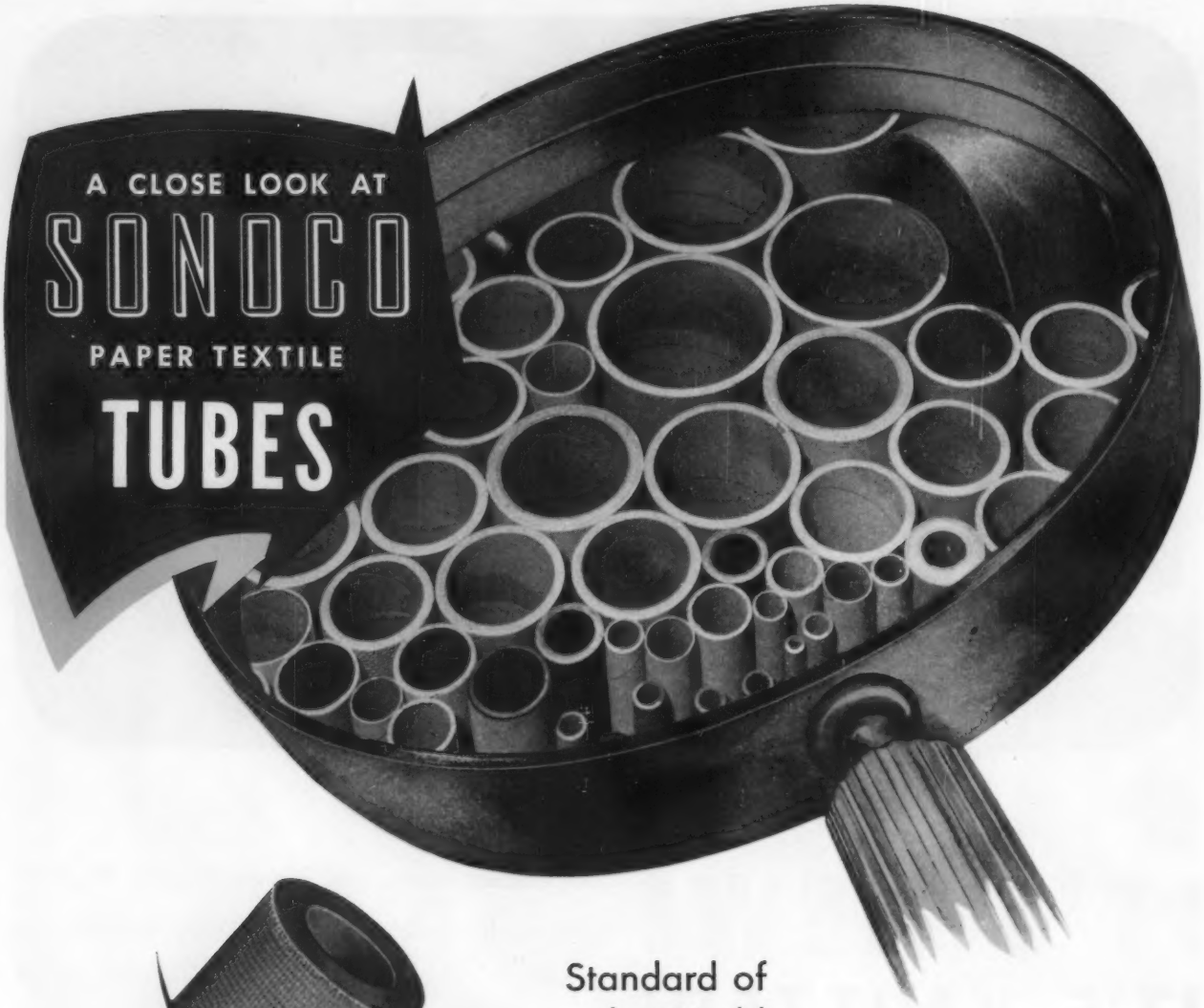
A CLOSE LOOK AT

SONOCO

PAPER TEXTILE

TUBES



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For every textile need! Cloth and loom tubes for one time use or returnable. Yarn tubes for winding, rewinding and shipping purposes.

SONOCO produces spiral, convolute, parallel or drawn tubes in sizes ⅛" to 36" I.D., in any practical length and wall thickness. Available in colors, various surfaces, treated, impregnated, perforated, scored, notched, printed and with crimped or burnished ends.

Our sales-engineers can help you with any textile tube problem!

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The LONG-RANGE VIEW

The TARIFF PRESSURE Is On

This month in Geneva, Switzerland, the U.S. government is likely to perpetrate what might be called a textile Munich. The State Dept., through the agency called the Interdepartmental Committee on Trade Agreements, is almost certain to "appease" Japan. And the price is a good-size hunk of the U.S. textile market.

No one will pretend that the tariff problem is simple or that there is an easy answer to it. Stated briefly, here are the pressures:

In Japan—

1. With a dense population, Japan cannot survive without a huge export business. Textiles, chiefly cotton, are her main dependence.

2. Her vast textile industry, between a third and a half as big as the U.S. textile industry, was built up to supply chiefly China and India. Those markets are now largely gone, China to the Communists and India to her own growing textile industry.

3. The Japanese government, plagued by business failures and demands for trade with China, is being forced to open up textile markets somewhere.

In the U. S.—

1. The State Dept. has one job to do: keep Japan away from the Communists. They can give away the whole textile market, shut down every mill in the United States, kill the job of every textile worker in the country, displace every textile family in the North and South—and still they have done their job successfully if they keep Japan away from the Communists.

2. Japan buys raw cotton from the U.S.; and the very powerful cotton bloc in Congress, which includes nearly all Southern senators and representatives, is forever trying, not only to maintain raw-cotton exports, but also to increase them.

3. Other U.S. industries that have no foreign competition in the U.S. market—automobile, steel, etc.—beat the drums for free world trade, safe in the knowledge that they are in no danger from Japanese-made products. They have no compunction whatever about giving the whole U.S. textile market to Japan if that will give the Japanese more money to buy U.S.-made automobiles and steel.

In the Rest of the World—

The other free countries are spectators. In many of them, textile exports to the rest of them are a vital part of their economies. It would be foolishly naive to suppose, as the U.S. State Dept. would like us to suppose, that there is any important outlet for Japanese textiles in any anticommunist country.

Admittedly, it is a knotty problem. There are no villain and hero in it. On one side are millions of sincere, hard-working Japanese people wanting to get along and improve their living; on the other, millions of sincere, hard-working Americans wanting to get along and maintain their living.

Nevertheless, it is you and I and other U.S. textile men who will pay through the nose for the State Dept.'s shenanigans at Geneva. Like weak little Czechoslovakia at Munich, we are the pawn in political hocus-pocus on an international scale.

The Solution Is Not Easy

What can we do? Nothing about Geneva. ACMI and NACM-NTA did all at the tariff hearing in December that could be done. But the problem goes on. The government, both Republicans and Democrats, is determined to keep chopping away at tariffs. In June, the present tariff law expires, but there is talk of renewing it, for five, three, or one year. Depend on it, Geneva will not be the end.

Textile men should learn the truth about tariffs, their own livelihood, and those cotton senators and representatives they religiously vote for. They should scream their heads off about the present tariff law and its domination by the State Dept. and should serve notice on their senators and representatives about the coming June vote on this law.

It is one thing for the U.S. to be Uncle Chips to other countries out of the general tax fund; but it is a far different thing for the chips to come, not from the general tax fund, but from the U.S. market of U.S. textile mills.

A. M. Thomas

HIGH BULK YARNS
THE TURBO WAY
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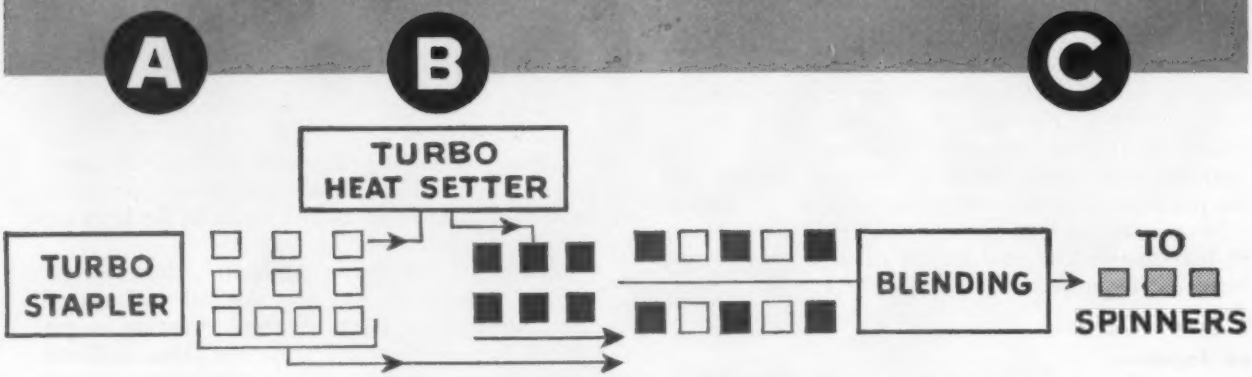

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First the fibers pass through the Stapler (A) — where *all* fibers are heat-stretched, all fibers are *broken,* and *all* fibers are crimped. Then 60% of the production is relaxed in the Turbo Steam Setter (B) by alternating cycles of vacuum and steam under pressure. Heat penetrates evenly and thoroughly, fibers are completely relaxed. The relaxed fibers are then blended with non-relaxed fibers in a 60/40 proportion in drawing (C). Then, with conventional equipment, the yarns are spun. In dyeing, high-bulking takes place. Non-relaxed fibers force the already relaxed production to arc-up to produce the desired loft.

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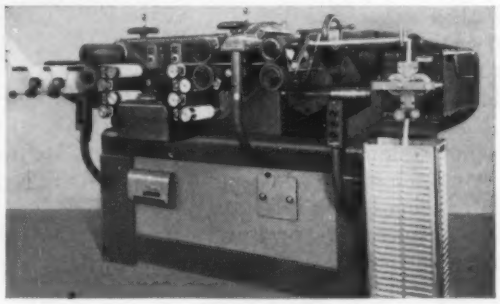
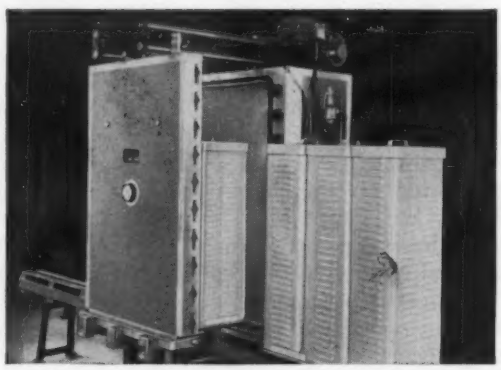


The Turbo Stapler



The Turbo Steam Setter

TURBO
SINCE 1929

TURBO MACHINE COMPANY, LANSDALE, PENNA., U. S. A.

Makers of Precision Hosiery Finishing Machines — Crimpers — Steam Setters

A MESSAGE TO AMERICAN INDUSTRY • THIRD OF A SPECIAL SERIES

FINANCIAL AID TO HIGHER EDUCATION

Business Aid for Our Colleges—Voluntary or Involuntary?

Previous editorials in this series have shown that:

- As a group the nation's independent, privately endowed colleges and universities are in grave financial trouble, and
- There are many different means by which business firms can extend a helping hand to these institutions.

This editorial, one of a series devoted to the financial problems of higher education, submits this proposition: **If business firms do not voluntarily go to the financial aid of higher education, there is every prospect that they will soon be providing more financial support for higher education involuntarily, through taxation.**

If this prospect materializes, one of the basic elements of a well-balanced system of higher education—a strong array of independent colleges and universities—may well be dangerously weakened if not destroyed. And in the process a potentially crucial bulwark for freedom of enterprise in the United States—that same strong array of independent colleges and universities—will be undermined.

Acceptance of these propositions implies absolutely no disparagement of tax-supported colleges and universities. These have an indispensable role in the total system of higher education in the United States. Leaders of these institutions would be among the first to agree that their position is strengthened by a strong system of independent institutions, supported privately rather than by political agencies.

What is the evidence that in one way or another, voluntarily or involuntarily, business will be giving more financial support to higher education? One impressive part of this evidence is provided by the recent rapid increase in the proportion of college and university students attending tax-supported institutions.

Rapid Shift in Enrollment

In the fall of 1952 tax-supported colleges and universities enrolled about 7.5 per cent more students than the independent institutions. In 1953 this percentage was doubled. And in 1954 the tax-supported institutions enrolled 26 per cent more students.

In the case of students entering college for the first time the relative growth of the tax-supported institutions recently has been even more striking. In 1952, the number of beginning students in the tax-supported schools, as reported by the U. S. Office of Education, exceeded those in the independent colleges and universities by 35 per cent. In 1954, just two years later, this figure jumped to 49 per cent.

Why has the proportion of students attending tax-supported colleges and universities been in-

creasing so rapidly? There are many reasons. But a dominant reason is that, in order to keep going at all, the independent institutions have been forced to make large increases in the prices they charge for instruction. The purchasing power of their endowment funds has been cut in half by price inflation. The capacity of the wealthy to supplement their endowments by gifts, as they have done in the past, has been greatly reduced by high taxes. As a result these schools have been forced to rely increasingly on higher prices for instruction (tuition as it is called in academic circles) to make both ends meet.

Since 1940, the independent colleges and universities have raised their tuition fees by an average of about 60 per cent. This is considerably less than the increase of about 100 per cent in prices generally since 1940. And it is nowhere near enough to prevent the faculty members of the independent colleges from faring miserably in terms of salaries, a matter of major national importance to which we shall return in this series. But the increase in tuition fees of the independent colleges has been much greater than the increase in the fees charged by the tax-supported schools. And that price differential increasingly tends to shunt students into the schools which are supported chiefly by taxes. Independent colleges now charge, on the average, about $580 per year for a full course of instruction while the tax-supported institutions charge, on the average, about $240.

Bigger Tax Bill in Prospect

A large increase in the total enrollment in our colleges and universities during the next decade is in prospect, particularly when the great increase in births during World War II is reflected in the number of young men and women of college age. With a total of 2.5 million students at present enrolled in our institutions of higher learning, it is estimated that the total will be over 3 million by 1960.

If this trend continues most of the anticipated increase in college and university enrollment will be concentrated in tax-supported institutions. Indeed, if the shift toward tax-supported institutions that has occurred in the last three years were to continue over the next six years at the same rate, about two million of the three million students anticipated in 1960 would be in tax-supported colleges and universities and one million in independent schools. In 1950 there was a 50-50 division in enrollment. This shift would mean, of course, a corresponding increase in the tax bill for tax-supported education. And of this bill, we can be sure that an ample share would be assessed against business firms.

No Easy Solution

The best way, of course, to put a brake on a soaring tax bill for higher education is to help the independent institutions get in shape financially to carry a larger share of the student load. For most companies the development of a mutually satisfactory program of financial aid for higher education is a complicated process. In fact, it is so complicated that some companies with an initial disposition to provide financial help are inclined to despair of working out a mutually constructive plan.

If, however, the leaders of business will contemplate seriously the only available alternative to their extending voluntary help to our independent colleges and universities, their determination to work out a plan will be strengthened. For that alternative involves a grave weakening of our system of higher education, together with an involuntary increase in the financial support of higher education by business. The increase would come through higher taxes. Contemplation of such an alternative should, if necessary, toughen the will of business firms generally to do everything possible to extend financial help to our independent colleges and universities.

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments that are of particular concern to the business and professional community served by our industrial and technical publications.

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Donald C. McGraw

PRESIDENT

McGRAW-HILL PUBLISHING COMPANY, INC.

The Big Question—Tariff

of talk about something naïvely called "reciprocal trade

Textile World
February, 1955 • Vol. 105—No. 2

1954 1955
Review and forecast

GENERAL OUTLOOK

Better Business in '55

Three factors stand out in 1955's prospects—

- **Business is better**
- **Politics are stable**
- **Tariffs . . . ?**

By P. M. THOMAS, Editor, TEXTILE WORLD

THE BROAD PICTURE facing the textile industry as we go into 1955 seems to be highlighted by three things: better business, stable politics, and the big question of what tariff concessions the United States will make at Geneva. Together, these things point to a more satisfactory year than 1954 turned out to be.

Last year, the disturbing elements were business and profits. Customers at all stages from the mill to the final consumer held up on buying to work down their inventories. The results were low mill production and low prices.

In four months of the year—January, February, June, and July—fiber consumption fell below 500-million lbs., a monthly average that nets an annual consumption of 6-billion lbs. Not since the textile-recession year of 1949 has fiber consumption been below 6-billion. Other months of 1954 brought consumption up to a point estimated to be slightly above 6-billion.

1955 Business

Beginning in August, mill production improved substantially. By November, most equipment and supplies manufacturers selling to mills began to get the highly satisfying feeling that happy days were here again. The old year wound up and the new year began with business at a considerably higher level than had been maintained during the first seven months of 1954.

Prospects for 1955 are good. The consensus is that high levels of production and sales are likely to hold for the first half of the year. The last half is not seen clearly; it unquestionably depends on whether demand in the first half is met realistically or opportunistically, whether production and sales are cautious or the channels of trade are glutted.

General Business

All U. S. business for 1955 looks good. According to an analysis by the McGraw-Hill Economics Dept., two developments are expected to strengthen business this year: (a) over-all capital expenditures and (b) an increase in construction of homes. These two elements, the analysis points out, account for the greater part of all private investment.

U. S. industry plans to spend $20.7-billion on new plant and equipment this year—only about 5% less than in 1954. A majority of companies expect to spend as much in 1956 as in 1955, indicating that the decline that started in late 1953 will level out this year.

Housing starts in 1955 are estimated to be at least 1.2-million, next to 1951 the highest ever. This boom in housing will be felt to some extent in industries that supply accessories, furniture, furnishings, etc.

In the end, both textile business and over-all business will thrive or be pinched according to consumer spending. Consumers have money; business depends on whether or not the consumers think it is a good time to buy.

Noisy but Stable Politics

In the fall elections, the Democrats failed to win the Congressional majority they hoped for, and expected. rower in Washington is so evenly divided that nothing much will be done to excite business. It looks like a routine two years. As one veteran observer puts it: "Washington won't do much to help anybody for the next two years, but they won't do much to hurt anybody either."

So look for the news out of Washington to be trifling: for example, McCarthy's elbow. Newspapermen, radio commentators, etc. have to make a living.

in tax-supported colleges and universities and

The Big Question—Tariff

This month in Geneva, Switzerland, an important meeting gets under way—the international conference on tariffs. The most critical problem that the conference will deal with is Japan and Japanese trade. That means textile exports.

The force in the driver's seat is world politics. Late last year, the political pot boiled over in Japan, unseating the six-year-old government of Premier Shigeru Yoshida. Unemployment, increasing business failures, and backward looking toward the "good old days" of trade with China are thought to be playing into the hands of the Socialist party, one of Japan's three strong parties.

Hovering like specters over the meeting are the political threat of Communism and the economic threat to the textile industry of the U. S. government's attitude toward world trade and tariffs. What will come out of Geneva is anybody's guess. To make it sound good, there's a lot of talk about something naïvely called "reciprocal trade agreements"—in which textile men say there's precious little reciprocity—and horse-trading of the kind where the U. S. says, "You buy textiles from Japan, and we'll buy something else from you."

But textile men fear (you could say know) it's mostly State Dept. talk, that when the Geneva results start working the U. S. textile industry is apt to find that the Japanese textile industry is back in business in a big way. We'll know by the end of 1955.

To Sum Up—

All told, 1955 looks like a rather peaceful, satisfying year, barring emergencies. Business should be good, compared to 1954, and profits fair. There should not be any great surges or extreme dips in any direction. Probably optimism with a reasonable amount of caution should be the watchword.

MILL PRODUCTION

1955 Should Bring Higher Mill Production

- **Mills turned out 7% less goods in 1954 than in 1953**
- **After 1954 inventory adjustments and some switches in fiber use, 1955 is expected to see—**

  Cotton up 6%
  Wool down 4%
  Rayon up 10%
  Other synthetics up 20%

By McGraw-Hill Dept. of Economics

Mill Production

Mill production in 1954 was the smallest in five years and 7% below 1953. TEXTILE WORLD's mill-activity index, which compares total mill production by years, stood at 99 (1947-49 = 100), down from 107 in 1953, 112 in 1950, and 113 in 1951. About 6,013-million pounds of fiber were consumed last year, compared with 6,521-million in 1953. Only two years since 1940 have failed to achieve a fiber consumption total of at least 6,000-million pounds.

Falling backlogs, prices, and production and rising stocks marked the first half of 1954. The cycle reached bottom in May. A mild saucering-out took place toward the middle of the year, and the last-quarter output was about 6% better than the first quarter. Prices improved slightly.

Fibers Consumed

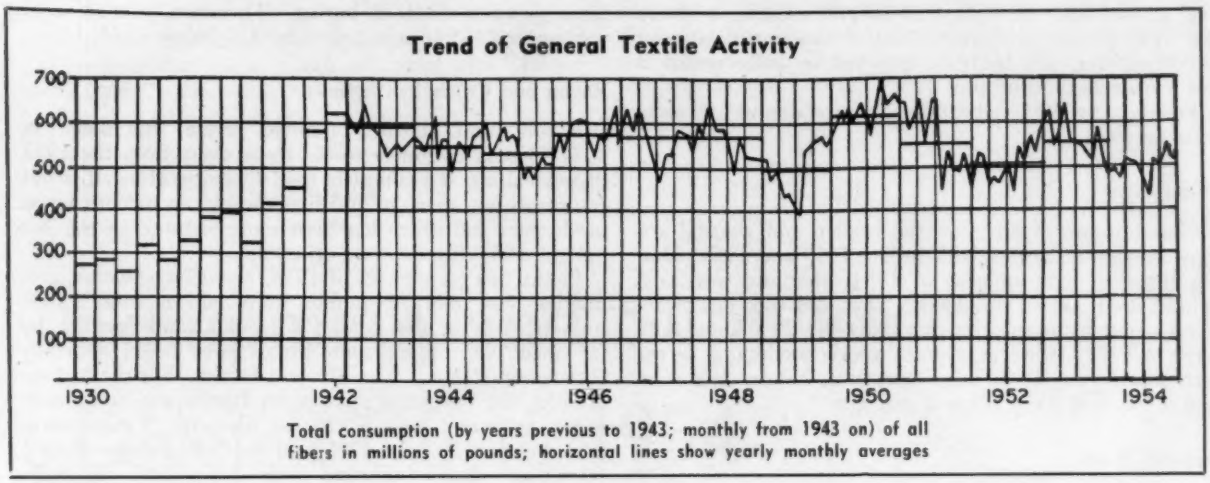
Wool continued its declining trend, off 17% from the year before. Cotton was down 9%. Rayon was off only 6% in 1954 from a poor 1953 record, while other synthetics went ahead 12%.

Inventories

Inventories as a whole fell throughout the first 10 months of the year. By the end of the year, stocks were 15% smaller than at the beginning but were still 14% above the 1952 low.

TEXTILE WORLD's Textile-Mill-Activity Index
(1947-1949 average = 100)

1924	50	1939	74
1925	58	1940	80
1926	61	1941	106
1927	68	1942	113
1928	61	1943	109
1929	66	1944	101
1930	50	1945	98
1931	53	1946	107
1932	48	1947	105
1933	60	1948	105
1934	52	1949	89
1935	57	1950	112
1936	70	1951	113
1937	72	1952	106
1938	59	1953	107
		1954 (est.)	99



Total consumption (by years previous to 1943; monthly from 1943 on) of all fibers in millions of pounds; horizontal lines show yearly monthly averages

A cumulative stock-sales ratio in the channels of distribution computed by Walter Storm, economist of Chicopee Mills, showed a drop from 44.91 weeks' worth of inventory in December, 1953, to 41.95 weeks' worth in December, 1954. This inventory level compares with 36 to 38 weeks' worth kept on hand before Korea but is below the 42.82 weeks' supply on hand in mid-1952 when a substantial upturn in the textile cycle took place.

For certain types of goods, the picture of the stocks on hand at the end of 1954 was:

Rayon and other synthetics stocks everywhere were down more than cotton.

Cotton-mill inventories were 1.4 times as great as in January, 1954, and 2.4 times as great as in early 1953.

Finishers' gray stocks dipped 29% from January to May to the lowest point in three years but rose again to end the year 15% below the beginning.

Finishers' stocks of finished goods drifted down 5%.

Garment manufacturers' stocks sank to the lowest point in four years, about 8% below a year earlier.

Dry-goods and apparel wholesalers had about 11% less goods on hand than at the same season in 1953.

Department stores' stocks fell from 11% above the average for the four preceding years to 4% below that average.

Mill-order backlogs dwindled for the first five months but remained substantially above the lows in the two previous textile depressions. A brisk improvement in the second and third quarters drove the backlog back up to healthy levels and better than 40% above the spring low.

The outlook is for a movement of a larger volume of goods in 1955 than in 1954. New orders should be substantial in the first third of 1955, and mill output should remain higher than in 1954. Price increases will likely be modest because of the ample supply of goods on hand and the production capacity still available.

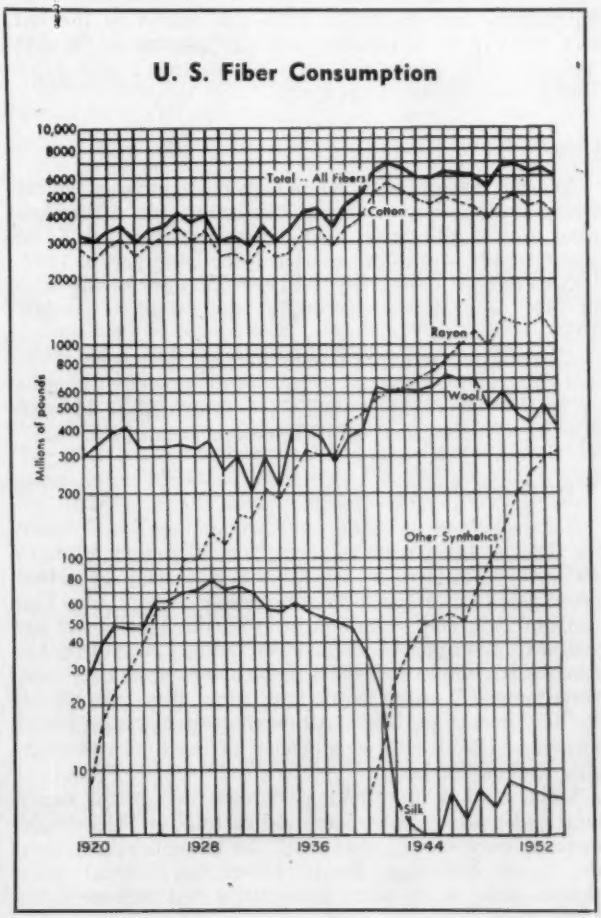
Production by Fiber

Cotton

Mill-order backlogs for all cotton broad-woven goods at the close of 1954 were an estimated 42% higher than a year ago; but stocks, fed by a high production rate, were up about 25%. Cloth prices firmed up 1% from the middle to the end of the year; but, excepting a few months in 1949, were the lowest in over eight years and one-third less than the post-Korean highs. Price of cotton was fairly low and stable and seems likely to remain so through 1955.

Mill margins averaged about 26.40¢ per lb. in the last 10 months of the year. This compared with 32.17¢ in the year 1953. It seems doubtful that any further cut can take place without causing prompt withdrawal of facilities from production.

Operations averaged 109 hrs. per week per spindle throughout the last part of 1952 and most of 1953. They sank to 100 hrs. in the first nine months of 1954 but regained 109 hrs. in October, 1954. Commencing with the present moderately high inventory level, this output



$1,000,000 over the same quarter a year ago to $14,537,-000

An increase of 473,000 doz. women's seamless hosiery was noted, while full-fashioned hosiery shipments were

level cannot long be sustained without creating a severe glut. The present production level, if maintained into the second quarter, will likely be followed by price weakness and a correction in output.

For the year 1955, output may average around 6% more than in 1954.

Wool

Consumption of fibers on the woolen and worsted systems suffered a sharp setback in late 1953 and 1954. During the first eight months of 1954, fiber use was 23% behind that period in 1953. The long-run downward trend is put in perspective by noting the 29% drop from 1950 to 1954. However, average weekly production in the first quarter was 25% below last year, but by late summer it was only 13% below a year ago.

Apparel Wool

Consumption of apparel wool was running 31% under 1953. In the men's clothing field, an estimated 18.7-million suits were cut in 1954, compared with 21.8-million in 1953 and 19.3-million in 1952.

The trend toward lighter weights continued but at a slower rate, from 19% in 1949 and 1950, to 24.8% in 1953, to 26.2% in 1954. The trend away from wool in summer-weight suits has been reversed. Lightweight suits containing 50% or more wool increased to 33% of the 1954 total in the first nine months of the year, compared with 26% in 1953 and 49% in 1950. The proportion of regular-weight suits made of wool has shown little change, while the relative amount of woolen sport trousers has remained 31% over the last four years.

Women's and children's apparel made of wool has fallen from over 40-million yards per quarter in the last half of 1952 to 30-million yards per quarter in the first half of 1954, while the drop off in men's and boys' apparel has not been so severe.

Other Uses of Wool

Woven wool in all other nonapparel fabrics, including transportation equipment and blanketing, has diminished from over 35-million yards in the first quarter of 1952 to about 5-million yards per quarter in the latter part of 1954.

Government orders fell from 6-million yards a quarter in 1953 to about one-half million yards a quarter in late 1954.

Carpet-wool consumption in 1954 was 19% below 1953 and was only three-fourths as great as the first eight months of 1950. Consumption for 1954 is estimated at 119-million pounds, compared with 133-million pounds in 1953.

Wool-Rayon Rugs

Total yards of wool-and-rayon woven rugs has declined for the first time in many years, from 67-million yards in 1953 to 57-million in 1954. A steady gain in tufted broad-woven rugs has been responsible. From 6-million yards in 1951 and 14-million in 1952, this type of rug has grown to 22-million yards in 1954. Also, a revolution has taken place within tufted rugs. Until this year, they were almost entirely made of cotton. Now they contain 60 to 70% man-made fibers. Although total rug sales should increase in 1954, wool as a percent of the total will probably decline further.

Since wool is now holding its own in sales of men's wear and women's suits, improved cuttings in 1955 should increase wool use in that field. In all nonapparel uses, the trend continues down. Lower raw-material price should make wool more competitive but will probably cause postponement of buying. Therefore, over-all wool volume in 1955 is expected to be 4% below 1954.

Rayon and Other Synthetics

Rayon went through a more severe shakedown in 1952-53 than cotton or wool. Its recovery from the 1952 depression was less complete than that of cotton. It is not too surprising, then, to find that the pickup in both rayon production and prices has been more vigorous in the last half of 1954 than cotton or wool.

In the first six months of 1954, rayon broad-woven production was only 784-million yards, down from 1,015-million yards in the same 1953 period and smallest by far since 1946. Spun-rayon fabrics fared better generally throughout the year than filament fabrics. For the first six months, the output of spun-rayon fabrics was down only 15%, compared with 27% for filament. Twisted-yarn-fabrics output dropped 42% to a quarterly average of only 60-million yards, compared with 180-million in 1950. Combination filament and spun fabrics averaged only 27-million yards a quarter, against 50 to 60-million yards in other postwar years. Blended fabrics showed only a 15% decrease.

Nylon

Nylon, after a period of consolidation in 1953, shot forward 21% in the first half of 1954. From only 5-million yards a quarter in 1947, this fabric has grown to 97-million. Other synthetics were up only 8%. Silk, Saran, and paper fabrics were down sharply, while glass fabrics and acrylics output continued to rise.

Cotton continued to make inroads on rayon in women's outerwear. Rayon fell from 72% of the unit-price dress total in 1950 to 56% in 1953, to 51% in the first half of 1954. In the dozen-price dress field, the drop was from 16% to 11%, to 10%. In 1950, 60% of blouses were made of nylon, while by 1953 it had dropped to 25%.

In men's shirts, rayon has stabilized at 44% of the total, after declining from 58% in 1951. Rayon in women's suits has gained from 40% in 1950 to 59% in the first nine months of 1954.

Tire Cord

Rayon tire-cord production dropped 31% from all-time peaks in the second quarter of 1953 to the same 1954 period. The decline carried through the summer, but closing months of the year saw recovery here also. Use of nylon in tire cord doubled, but it was still only 8% of the total.

Both viscose and acetate filament and staple were constant throughout the year.

The readjustment has been more complete in rayon than cotton or wool. The year ahead may show a rise of 10% for rayon and 20% for other synthetics.

Knit Goods

Shipments of knitted underwear during the third quarter of 1954 increased 43% over the second quarter of the year. However, shipments were down from $94,046,000 in the third quarter of 1953 to $91,903,000 in the third quarter of 1954.

Increased production of lightweight undershirts with one-quarter sleeves caused a rise of 3% in the undershirt production over the same quarter a year ago. The production reached a total of 3,982,000 doz. From the same quarter a year ago, women's, girls', children's, and infants' underwear showed a decrease of 3% to 3,907,000 doz.

Knitted outerwear-shirt shipments showed a rise of

$1,000,000 over the same quarter a year ago to $14,537,000.

Hosiery sales for the first nine months of 1954 amounted to 115-million doz. pairs, which compares with 118-million doz. pairs in the same period of 1953.

An increase of 473,000 doz. women's seamless hosiery was noted, while full-fashioned hosiery shipments were down 711,000 doz. to 35,635,855 doz. Anklet production was down 1,260,085 doz. pairs to 26,480,868 doz., while men's socks were down 453,163 doz. to 32,187,826 doz.

MILL PURCHASES

Equipment and Supplies Leveled Off in 1954

- **A good last quarter in 1954 failed to recoup losses in the first three quarters of the year**
- **Auxiliary equipment and supplies held steady, but processing machinery eased off**
- **1955 looks like a good year**

By P. M. THOMAS, Editor, TEXTILE WORLD

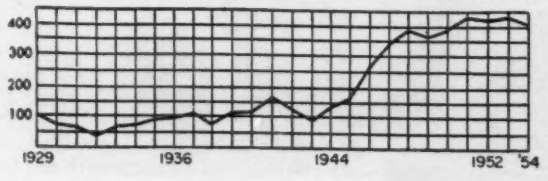
BUSINESS IMPROVEMENT IN 1954 came a little too late for mill purchases of equipment and supplies to level out the year. The result was that 1954 goes into the record as the lowest of the four years since 1950. That still makes it the fourth-highest year we've ever had. Compared with pre-1950 averages, business in 1954 was at an impressive level; but compared with the 1951-53 average, it wasn't good.

In TEXTILE WORLD'S annual survey of mill purchases, 172 machinery, equipment, and supplies manufacturers reported figures for 1954 in comparison with 1953. Of this number, 73 companies had increases in 1954, 78 had decreases, and 21 were about the same as in 1953.

The 1954 index of mill purchases is 408 (based on 1929 = 100). That is 28 below 1953's 436 and represents a drop in mill purchases of about 6½%.

Purchases of Equipment and Supplies by Textile Mills

Based on Dollar Volume in TW's Index, 1929 = 100



The record since 1947 is:

1954	408
1953	436
1952	428
1951	433
1950	399
1949	367
1948	394

Decreases occurred chiefly in processing machinery and equipment. Supplies and auxiliary equipment were about the same as in 1953.

The 1954 Record

Percentages up or down in the various types of products were:

Spinning and weaving	− 8.6 (%)
Knitting	− 12.5
Finishing	− 6.0
Auxiliary equipment	− 0.8
Supplies	+ 0.1

The general pattern was that sales were slow for the first 8 to 10 months but picked up sharply from September to November and carried over into 1955 at a rate that starts the new year off with general optimism.

One of the outstanding accomplishments of the year came from the success of women's seamless hosiery. Interest in this product and machinery and equipment for making it started in a big way in 1953 and gathered momentum throughout 1954. Expectations are that machinery and mill sales in this line will continue to race ahead throughout 1955.

What About 1955?

With no more exceptions than you can count on your fingers, manufacturers expect 1955 to be a decided improvement over 1954. On the basis of estimates given in the survey, percentage changes expected in 1955 over 1954 are:

Spinning and weaving	+ 12.0 (%)
Knitting	+ 10.8
Finishing	+ 12.1
Auxiliary equipment	+ 10.2
Supplies	+ 13.3

flexible couplings are ranged along the

How the Setup Works

sion is out of the picture, maintenance

Modern DRUG ROOM Saves Time, Money, Labor

PORTABLE MIXING TANKS are used to boil up dyebath ingredients.

HOPPERS are used to dump in the smaller charges boiled up in pails.

American Thread Co. put a lot of thought into the drug-room installation at its Sevier, N. C., plant. A central elevated location isolated from the dyehouse has paid off in—

- **Less labor in mixing and transporting color**
- **Less waste of materials**
- **Clean, dye-free air for the dyehouse**

By ROBERT W. PINAULT
Assistant Editor, TEXTILE WORLD

When American Thread Co. built its new thread-finishing plant at Sevier, N. C., one of the things it paid close attention to was the dyehouse drug room. Two problems common to most drug rooms were planned for: (1) how to reduce labor and (2) how to eliminate dye particles flying about the dyeroom.

Here's how American Thread tackled these two problems.

How Labor Was Saved

In most dyehouses, considerable labor is involved in preparing dye and chemical formulas and delivering them to the various machines. In most cases, preparation requires a lot of handling —trucking, scooping, pouring, mixing, etc.

To streamline these routines and eliminate much of the labor, American Thread located its drug room on a mezzanine floor above the office in the center of the dyehouse. This location centralizes the flow of materials, and the elevation makes it possible to deliver boiled-up ingredients by gravity from the drug room to the various machines.

The center of the drug room is used for storing dyes and chemicals in current use. Along two sides of the room, at just above floor level, are the delivery stations that connect with the various dyeing machines. Water and steam lines with convenient valves and

flexible couplings are ranged along the walls. Caustic, peroxide, and acids are piped to and metered from a central station in the drug room. Formulas requiring these chemicals are made out in gallons and are accurately and safely made up.

Mixing Equipment Is Mobile

The mixing equipment was designed to take care of the wide variation in the size of the dye mixes used by the different types of machines. Sevier dyes, skeins, packages, and warps; so there is considerable difference in the size of the machines and the charges required.

For large and medium-sized charges, American Thread had special stainless-steel tubs built and mounted on large casters so that they could be moved from one station to another as needed. The large tubs have a capacity of 100 gals.; the medium-size ones, 60 gals. For the smaller dyeing machines, or where small adds are to be made, hoppers are placed over the delivery-station outlets and the dye is dumped in from a pail.

When the larger mixes are called for, a tub is wheeled into position over the proper outlet and coupled into the line with regular stainless-steel pipe fittings. A quick-connecting hose is attached to the steam line and placed in the tub. Flexible water outlets are used to supply the necessary amount of water. When the mix is particularly heavy, propellor-type mixers are available to aid in the solution of the dyes.

How the Setup Works

In keeping with the thought given to engineering the physical equipment, a dye-formula system was devised to insure accuracy and control of the dyeing. Special forms, made out in duplicate, give the various steps of the dyeing cycle. One copy goes to the color mixer in the drug room and the other to the machine operator. Dyes and chemicals are listed only on the drug-room copy, as the operator is concerned only with processing steps.

While the operator is preparing his machine for the dye, the color mixer makes up the mix for the first operation. When the mix is ready, the color mixer switches on a light at the dyeing machine. When the operator is ready, he signals the color mixer by means of a light that appears over the delivery station. The color mixer then sends the charge down the delivery line; and when the operator opens his machine valve, dyeing begins. Glass half-walls permit further visual signals and help the color mixer keep check on the dyehouse.

Corrosion Licked With Glass

The long pipelines necessary in a good-sized dyehouse could have presented a serious corrosion and cleanliness problem, but American Thread used Pyrex pipe for the entire system except for stainless-steel connections into the delivery stations and at the dye machines. A flushing with fresh hot water is all that is ever needed to keep the lines clean; and since corrosion is out of the picture, maintenance has been extremely low.

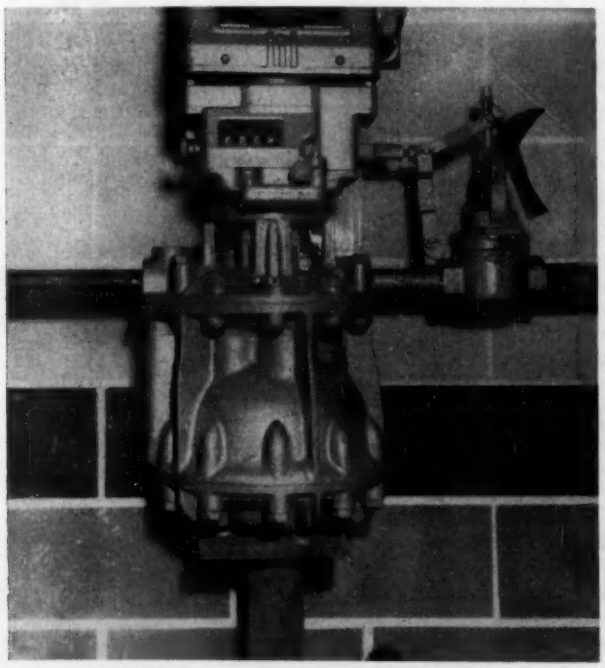
How Flying Dye Is Avoided

One of the problems many dyehouses have to contend with is loose dye particles flying about the room and contaminating the goods. When the drug-room man scoops up dye and dumps it into a pail, some of the dye flies into the air and very often is blown about the dyehouse by normal ventilation. Damage from such particles settling on goods can be serious.

This sort of trouble was eliminated at American Thread by building the drug room as a unit physically isolated from the dyehouse as far as was practical. The fact that the entire mill is air conditioned through a central system is also of great help because there are no strong drafts from or to any one area. There is a constant flow of air; but it is more or less self-contained within the different rooms, and exhausts are led back to the filters in the air-conditioning system. So if any dyestuff does fly about in the drug room, it lands in the filters.

Future Needs Were Considered

The long range plans for this mill included considerably more dyeing equipment than is now in operation, and floor space was provided for in both the dyehouse and drug room. Delivery stations sufficient to serve as many dyeing machines as the dyehouse will hold were included in the installation.



METERS control flow of chemicals to the drug room.

GLASS PIPE conveys the dyes and chemicals to the machines.

One Mill's Experience

By THOMAS B. WINSTON,

What the Mill Has Learned . . .

▶ **Top management has come to believe that four elements are essential to good human relations:**

- **Permissive atmosphere**
- **Participation**
- **Need for learning**
- **Feeling of importance**

AFTER THREE YEARS of experience with human-relations training, the management of this Southern mill is sure of one thing: human-relations training is a discouraging business. Perhaps the most important result of the program is that top management has come to believe in what it is trying to do.

Here is how the manager of the mill sums up his views on human-relations training:

"We think we've made progress; but if we had to justify the value of human-relations training on the basis of tangible results, we might have to discontinue the program. Sometimes when simple principles of supervision are broken, we feel that human-relations training is more trouble than it's worth.

"We keep our program because we have come to believe in what we're trying to accomplish. For us, our human-relations program is not a training program in the narrow meaning of training; it's a living experience.

"Our goal is to help our supervisors to stop blowing up on the job. We are using the conference approach.

"The same qualities that make a supervisor effective on the job also make him effective in a conference discussion. Successful discussions are demonstrations of effective communications.

"A supervisor can't keep his emotions out of a situation unless he feels secure. He feels secure if he has self-respect and the respect of others, if he has a feeling of importance, and if he knows where he stands. If he feels secure, he feels free to express his opinions in a conference discussion; and on the job, employees will feel this security, too. Then they will all be members of the same team; a team is built on mutual respect and understanding."

Permissive Atmosphere

"We believe in a permissive atmosphere. Some of our supervisors don't believe in it because they are afraid workers will run over them.

"But a permissive atmosphere does not mean lack of discipline. A permissive atmosphere means that a man can afford to be wrong without losing face. In a conference, a supervisor can say what he thinks without anybody telling him he is wrong. (But disagreement is expected.)

"On the mill floor, a man can go to his boss with an idea, and he will feel confident that the boss will listen to the idea and discuss it with him. In a permissive atmosphere, there is no such thing as a stupid idea; fear is removed and replaced with trust and confidence.

"A person responds to confidence; and with confidence, a relationship will bloom and mutual respect and understanding will develop."

Participation

"We believe in participation, although our belief has been strained at times. In one case, we went to great lengths to bring our workers into the development of a certain policy. That policy was exactly what our people said they wanted, but a couple of months later the policy suddenly became management's policy. We found out the hard way that participation can backfire. Our belief in participation is based on hard experience. Good principles don't automatically work when put into practice."

Need for Learning

"We believe that a supervisor will learn only if he feels the need for learning. He will change his attitudes only when he feels a need for new attitudes.

"Human-relations training is a long-term proposition because: (1) A supervisor who is approaching retirement doesn't feel any need to change, (2) a supervisor who doesn't have the minimum intelligence required for learning won't benefit from a human-relations program, and (3) a supervisor who has been burned emotionally is afraid to change."

Feeling of Importance

"We believe that every person wants to feel important. A supervisor is in a position to act important; and the most difficult task for a supervisor, for every human being, is to get personal satisfaction out of making other people feel important.

"A man who feels important deep down doesn't have to go around trying to prove it; he doesn't have to be a big shot. He has confidence; he's not afraid that he'll stick his neck out."

LABOR COSTS for Knitting Undershirts

With HUMAN RELATIONS

Assistant Editor, TEXTILE WORLD

. . . From This Training Program

▶ The conference approach is used and human-relations topics lead into case-history problems. It's up to each supervisor to develop his own understanding of human relations; no answers are provided.

BEFORE THE MILL SWITCHED to the conference approach in 1951, the "Tell-'em approach" was used. A problem and a solution would be given: "You can handle this problem this way and that problem that way." Supervisors came to the meetings; then they went back to the job. There was no connection between the two. The supervisors weren't connecting what they learned in training with what they did on the job. Then conferences replaced lecture sessions.

How Conferences Work

Two ground rules hold conference discussions in line: (1) no one is allowed to monopolize the discussion, and (2) everybody must stay on the subject. The discussion leader acts as a referee. He presents the topic and then keeps the discussion going with questions. "Any opinions?" "Anybody disagree with that?" He might restate an opinion for the group to consider, but it's not his job to accept or reject solutions. The group does that.

Management hopes that some of the supervisors will change their attitudes as a result of the group discussions; but it's a slow process for a man to change the way he looks at people.

The program is set up to lead into discussions of actual case-history problems once a month and other subjects concerning supervisory problems. But before case histories were brought in, several years were spent discussing human-relations topics; and even now, it is sometimes difficult for the supervisory group to understand and take advantage of the purpose of case histories.

Communications

The first topic is communications. Communications is usually thought of in terms of words; and in the discussions, this idea is the first to be brought out. But it doesn't take long for somebody to come up with the idea that words are the least important aspect of communications. How about the expression on the face and the tone of voice—in fact, the whole personality? It's not what is said, but how it is said—the emotional atmosphere of communications. You can't fake understanding and respect for other people; if you could, you would be in Hollywood.

Take the problem of firing. Warnings are not enough. If you keep on warning a person that he shouldn't do a certain thing, you are actually communicating to him that he can keep on doing it without anything happening. But if you set up rules, anybody who breaks the rules is firing himself.

The rules should provide for a definite 1-2-3—out. If the rules are clear, you have a legitimate base of communications. If a firing becomes necessary under the rules, you can answer excuses with, "You may be right, but I have to let you go for this reason: the rules say 1-2-3—out."

The second discussion topic is "struggling with ourselves." During this session, the supervisors discuss the two sides of people. The conference leader starts the discussion by calling these two sides "independence" and "dependence," but the discussion leader is not interested in what they're called. Usually somebody will come up with a good idea expressed in his own words; then everybody has something to say.

One side of a person wants to take chances; the other side doesn't want to take chances. One side wants the man to stick his neck out; the other side wants it kept in. Usually in people, one side will be slightly on top. Some people like to take chances; others don't.

Balanced Sides

For members of a team, the two sides have to be fairly well balanced. Too much dependence keeps a man from accepting responsibility; too much independence makes him irresponsible.

So what happens with a supervisor who tries to be a big shot? When he tells a worker to do something, what he is really saying is "I'm more important than you are." This swings the worker to the independent side: "No, you're not. I'm just as important as you are." The worker doesn't say that, but he feels it. His emotions get stirred up. The result of this situation is fear. When fear is present, facts don't do any good.

A capacity for fear in people is built up from childhood. It is the result of

CONTINUED ON PAGE 178

These Three Loom Settings

LABOR COSTS for Knitting Undershirts

▶ A knitting mill that produces 275,000 doz. athletic undershirts annually broke its labor costs down and found that a total of 0.722 manhours was required to produce 1 doz. shirts.

▶ Here are the details—

LESS THAN ¾ HR. is required to produce 1 doz. high-quality men's athletic undershirts by a medium-size mill, according to a recent survey prepared by the Bureau of Labor Statistics.

The mill described in the survey employs about 100 workers. There are 28 indirect workers engaged as maintenance men, handlers, shippers, supervisors, and office staff. Indirect workers accounted for 0.17 manhours per dozen.

The manhour figures were calculated from payroll summaries and production records.

The undershirts are made in 2x2 rib fabric from 30s combed cotton. The finished weight of the goods is 2 lbs. per doz., and they sell for $4.80 per doz. The plant produces these goods almost exclusively. One week's production is about 5,000 doz.

About 35,000 lbs. of yarn is kept in storage, enough for three to four weeks' production. When the price of yarn is steady, the yarn inventory is increased.

Knitters Tend 230 Feeds

Unbleached yarn is distributed to the knitters by a yarn man, who also collects and weighs the fabric. Each knitter tends 230 feeds, or from 20 to 30 machines, depending on the number of feeds per machine.

The knitting machines are Scott & Williams and Wildman 8-, 10-, 12-, and 14-feed machines. Four widths of fabric ranging from 15 to 18 ins., to cover sizes 34 to 44, are made. There are two fixers and one foreman. The fixers replace broken needles, set machines, and repair belts.

The downtime for each machine is about 2 hrs. for each 40 machine hours. There are 120 yds. in each roll of 2x2 rib fabric.

Including fixer and foreman manhours, the knitting production equals 16 doz. per manhour. This figure works out to 0.062 manhours per dozen.

In the bleaching department, the fabric is placed over horizontal bars and unrolled by mill-made unrollers. The pieces of fabric are sewed end to end on a Merrow Model 68-G machine. Each end is marked with indelible pencil, and the fabrics are sewed tubular.

One batch weighs 3,000 to 4,000 lbs. A conveyor transports the material to the wetting-out tank. Two men are occupied by this preparation, and their total manhours per dozen equal 0.0032.

Three Men for Bleaching

Two pressure kiers of 3,000 lbs. and one kier of 4,000 lbs. are run by three men. The fabric is pulled out of the kiers by powered rubber rollers and dropped into wooden boxes. The cost per dozen for this operation works out to 0.0120 manhours.

A Tube-Tex machine is used for spreading, starching, and drying; and a Grand Rapids machine is used for folding the fabric. Six men are employed on this work, and their production is 0.026 manhours per dozen.

The fabric is delivered to the cutting room on hand trucks and spread out on 66-ft.-long cutting tables by a Firsching B25 machine. The tables are 6 ft. wide, and the fabric is spread on both sides. The lay consists of 72 layers of tubular material.

Cutting is done by an Eastman 551 straight knife. Bundles of 3 doz. shirts are tied with string, placed in hand trucks, and wheeled to the sewing department. Laying and cutting accounts for 0.030 manhours per dozen.

Seaming Is by Bundle System

The goods remain in the hand trucks until they are required for seaming. The bundle method is used in this plant. Each operator performs one task and places the completed bundle on a hand truck.

The first sewing operation, which accounts for 0.145 manhours, is attaching the tubing of the armholes and the neck. The label is attached at the same time.

Union Special 52-800 machines are used for this work. There are 12 operators doing this work, and their average

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Direct-Labor Production

Process	Workers	Production per hour each	Manhours per doz.
Knitting	8	16 1/12	0.0620
Bleach preparation	2	315	0.0032
Bleaching	3	83 1/3	0.0120
Drying	3	166 8/12	0.0060
Finishing	4	100	0.0100
Folding	3	100	0.0100
Cutting	4	33 1/2	0.0300
Sew tubing	12	6 10/12	0.1450
Join shoulders	3	28 1/2	0.0350
Hemming	3	30 4/12	0.0330
Tacking	5	20	0.0500
Trimming	3	32 3/12	0.0310
Folding	9	13 2/12	0.0760
Pressing	3	32 3/12	0.0310
Boxing	2	55 1/2	0.0180
			0.5522
Indirect workers	28		0.1700
		Total	0.7222

These Three Loom Settings Give Better CLOTH COVER

To weave cloth with a smooth, soft face without reed marks or other roughness—

• Time the harnesses • Set the whiproll height • Time the whiproll cam

By W. BRATTON WILLIAMS, Associate Professor, School of Textiles, Clemson College

ONE OF THE MOST DIFFICULT QUALITIES to obtain in a woven fabric is sufficient cover or face. If the cover is correct, the cloth feels smooth and soft and has no reed marks or other lengthwise roughness. Cover is especially desirable in plain-woven cloth fabrics such as broadcloth, print cloth, and sheetings.

To obtain the proper cover, the warp must lie straight in the fabric and the filling must do the bending. If the warp does most of the bending while interlacing with the filling, rough cloth and reed marks result. This condition results because the warp is tougher than the filling; it contains more twist and is coated with size.

A good cover, therefore, results when the warp lies straight while the filling does the bending, because the softer filling spreads out and fills up the cracks between the warp ends.

Three loom settings can be made to control fabric cover. The settings to add cover, however, have disadvantages, because when the warp is forced to lie straight it is placed under greater tension and the possibility of end breakages is increased.

Setting No. 1—Harnesses

The timing of the harnesses is the first setting necessary for proper cover. The conventional harness timing on narrow sheetings, broadcloth, 80-square, and other standard print cloths is to cross the harnesses when the crankshaft is at bottom center; with this setting, the reed is approximately 3½ ins. from the fell of the cloth.

This setting is the earliest the harnesses can be timed in relation to the shuttle pick and gives the best results for cover. However, the strain on the warp is at a maximum with this timing because the filling is beat up in a locked warp shed for 3½ ins. During the beat-up, half the warp ends are pulling upward on the pick of filling and the other half are pulling downward on the filling. This action forces the filling to do the bending, but the chafing of the filling against the warp causes a maximum of strain on the ends.

The harnesses are open for the next shuttle pick at the beat-up when this harness timing is used. This condition again places unusual strain on the warp because the reed strikes the fell of the cloth while the harnesses are open; then the warp is drawn tighter while the shed is open for the next shuttle pick.

Many fabrics can be woven with the desired cover without timing the harnesses as early as the 3½-in. conventional timing. If timing the harnesses at 2 to 2½ ins. instead of 3 to 3½ ins. gives the desired cover, the 2½-in. setting should be used because less strain is placed on the warp yarn. With this later timing, the pick of filling will not be forced as far through a locked shed and the harnesses will not be open quite as wide for the next shuttle pick at the beat-up.

Setting No. 2—Whiproll

The second setting that affects cover is the height of the whiproll. A high whiproll causes the bottom warp shed to be farther away from the center line of the shed and the top shed to be closer to the center line. With a high whiproll, the bottom shed is extra tight and the top shed is correspondingly slack. The beat-up action then takes place in a locked shed; one is tight and one is slack. The tight shed forces the filling to bend through the slack shed.

A bad setting from a cover standpoint is to set the whiproll so that both sheds have the same tension. Then the sheds tend to balance each other as each warp end forces the filling in the opposite direction.

Generally, the cover is better when the whiproll is set high, but many whiprolls are set higher than necessary. It is often possible to lower a whiproll 1 to 2 ins. and still maintain sufficient cover, and the relieved strain on the bottom shed may result in less loom stoppage.

Setting No. 3—Whiproll Cam

The third setting to obtain better cloth cover is the timing of the whiproll cam. The purpose of the whiproll cam is to raise the whiproll slightly as the reed approaches the fell of the cloth for the beat-up so that the tension on the warp yarn is increased at the instant the warp interlaces with the filling. This increased tension on the warp also prevents it from bending and forces the filling to do the bending.

To time a whiproll cam properly:

1. Place the shuttle in the left-hand shuttle box.
2. Turn the crankshaft toward front center until the reed is ¾ in. from the fell of the cloth.
3. Set the whiproll cam straight up so that the whiproll-cam-follower end is at its highest point.

With this setting, the cam is falling and the tension on the warp is slightly decreased when the reed hits the fell of the cloth.

Another timing commonly used, but inaccurate, is to set the whiproll cam straight up while the crankshaft is on dead front center. This setting adds the maximum tension to the warp as the reed strikes the fell of the cloth; the setting does not add noticeably to the cover but increases warp-end breakage because of the excessive strain.

The new whiproll cams on X-2 looms are made with the cam point less off center. This design reduces the amount of vibration of the whiproll and, consequently, reduces the strain on the warp yarn at the beat-up. These cams work well as replacement parts for E-model looms.

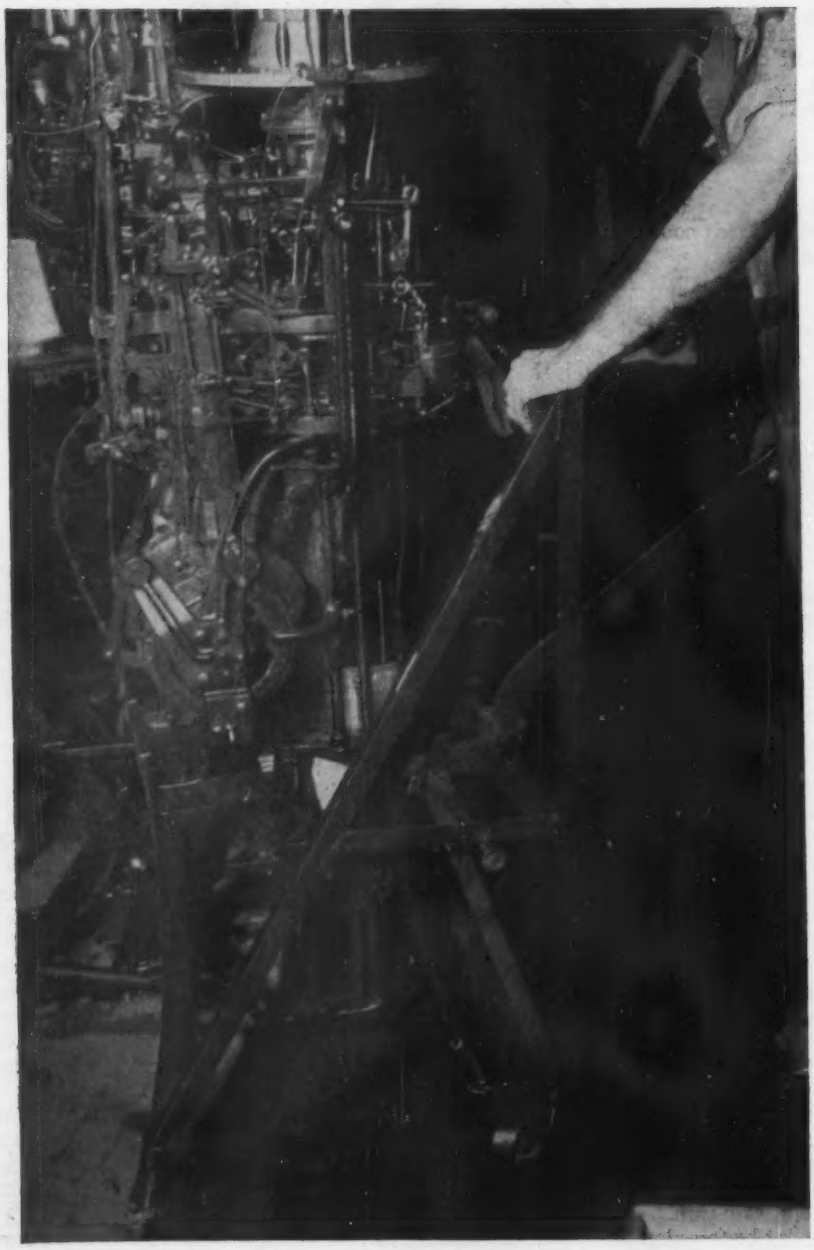
In establishing harness timings, whiproll-height settings, and whiproll-cam timings for the best cloth cover, do not go to the extreme setting.

UNEVEN YARN

Ideas That Help HOSIERY SAMPLING

- A device that moves machines easily
- A sample line shaft that speeds change-overs
- A stool on casters that aids fixers to change sizes

By JAMES H. BLORE, Associate Editor, TEXTILE WORLD



HANDLING DEVICE for hosiery machines allows one man to move the machine to the sample line shaft to change the pattern.

SAMPLING TIME in a circular-hosiery mill is always a time of headaches and additional problems. One hosiery mill adopted a number of ideas to reduce these problems.

A fixers' line shaft was set up in one corner of the knitting room to help in changing over patterns. The pulleys on this line shaft are set further apart than usual so that fixers have ample room to work around the machine. The line-shaft speed is kept identical to the speed of the production-line shafts to simulate production conditions.

Fixers' Bench Aids Change-over

A bench built at the end of the line shaft assists fixers in the change-over. The bench is equipped with a vise, emery wheel, and drill press.

When a machine is to be changed to a new pattern, it is drawn from the production line and moved to the fixers' line shaft. Arrangements are made so that only one machine is removed from each set of machines to change patterns.

Samples and new color lines are also made at the fixers' line shaft. If a machine is removed from the production line for several days for experimental purposes, it is replaced with another machine to retain the knitter's full complement of machines.

One Man Moves Machines

A handling device made from 1-in. angle iron allows machines to be moved by only one fixer. Two triangular-shaped end brackets on the device support a 1-in. shaft. A lever working on this shaft raises a U-shaped bracket that rests under the machine bottom frame.

An arm on the U-shaped bracket catches in a notch to lift the machine off the floor. A top bracket fits on the yarn post to keep the machine upright. Casters on the device allow the machine to be pushed to and from the sample shaft with a minimum of delay.

Another helpful device for the fixers is a low metal stool that runs on casters. This stool aids the fixer when sizes are changed and other adjustments are made to the lower part of the machine.

A fixer is assigned to one alley of 30 wrap knitting machines, and each fixer is provided with a stool.

14 Causes of UNEVEN YARN

HIGHLIGHTS—

The first requirement for even yarn is even roving. However, many conditions in spinning contribute to uneven yarn, regardless of the quality of the roving. Here are 14 of the most-common causes of uneven yarn and things you can do to improve them.

By MARCUS C. GROSS

1. Stretched roving

Porcelain skewer cups should be inspected, and any that are chipped and cracked should be removed. Worn or split skewers should be discarded. Roving bobbins should rotate freely with only minimum tension exerted from the back-roll pull. Roving in the middle creels should go over the roving guide rods and feed directly into the trumpet on the roving traverse. Spinners should not be allowed to feed the roving underneath the back bar of the cap bars; feeding in that manner causes the back rolls to pull at an angle that induces stretch and undue tension.

2. Dry top rolls

Dry rolls retard and vibrate, which prevents a smooth, firm grip on the fibers. Strict adherence to the oiling schedule and the oiling of every moving part and all saddles will prevent uneven yarn from this source.

3. Top-roll settings

Top rolls should be set slightly forward of the bottom rolls. When set in this manner, they receive a fuller thrust of the bottom rolls than when they are set exactly parallel with or slightly back of the bottom rolls.

4. Steel rolls vibrating

Gears meshed too deep will cause grinding and roll vibration. Approximately three-quarters mesh is advisable.

5. Waste in arbor ends of rolls

Waste that gets wedged in the arbor ends may freeze the rolls. Constant inspection of the rolls and strict adherence to the cleaning schedule will overcome this fault.

6. Heavy and light travelers

Heavy travelers will break ends or make weak spots and induce chafing as a result of drag. To overcome this condition, the ends down at the start of the doff should be checked; if excessive end breakage is evident, the yarn should be sized and the yarn tension checked at various stages of the doff.

If a lighter traveler has to be used and soft bobbins occur, it may be necessary to reduce the spindle speed and return to a heavy traveler. The reduction of spindle speed will reduce tension, but the additional traveler weight will wind a firmer bobbin with fewer ends down. It may be necessary to revert to trial and error to determine the proper weight of traveler to use. Ends down should be checked with the frame at the top rail position at the start of the doff, and ballooning should be checked as the bobbin builds up.

7. Bad spindle

A shaking bobbin on a spindle indicates one or more of the following six causes: bad spindle, bad bobbin, worn bolster, bad base, dry bolster, and wrong oil. The following procedure is recommended for determining which of the six conditions you have:

a. Remove the shaking bobbin; and test the spindle with another bobbin, preferably one that is running true on another spindle.

b. Remove the spindle, and test the bolster with a new or trued spindle.

c. See if the base is hot.

d. Oil the base and bolster, and test the spindle.

e. Remove the base and bolster, and check for wear. Check the key, if it is a keyed bolster; inspect the base; and check for a worn keyway. Check the pin, if it is a pin bolster. Check for excessive sludge.

The section hand can check these points in whatever order he desires; but if the spindle is still not true after checking, it must be replaced. The variable tension applied to the yarn by a bad bobbin or bad spindle will cause uneven twist and ends down.

Bad rings should be removed at once. Damage will show up as deep scoring or a wavy surface beneath the flange. Only the proper circle of traveler should be used. Too large a circle grooves the rings, and too small a circle creates the wavy pattern beneath the flange.

8. Improper pressure

The greater or faster the pull on the fibers, the more pressure will be required. The total pressure is governed by the weight on the hook attached to the lever. All hooks should be in the same position on the levers. If a hook is moved forward, less pressure is applied to the drafting rolls, a condition that can cause uneven yarn.

Close check must be made of the break-draft zone. Loss of break draft as a result of back-roll slippage adds the burden of breaking the twist and drafting in the main drafting zone. If the draft gear is considerably lighter (less teeth) than should be necessary for the required draft and yarn number, check the back-roll pressure. If the roll turns too freely by hand, there is not enough pressure; and more should be applied. Stirrups should be in uniform position on every front saddle. All levers should be horizontally uniform, and all weights should be periodically checked.

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d. Clutch fingers not aligned correctly on the clutch cone

line shaft to change the pattern.

fixer is provided with a stool.

CHECK THE SPEED of every loom periodically with a tachometer.

LUBRICATE BEARINGS, motors, and other parts frequently to maintain standard speeds.

CEMENT CLUTCH DISKS in a press and let them stand 24 hrs. before using them.

Maintain LOOM DRIVES To Increase Production 3%

► Loom drives running along without attention bog down weave-room production 3%. A little time and work spent in the right places reclaim this lost production.

By **WILMER C. WESTBROOK,** Consulting Editor, TEXTILE WORLD

LOWER-THAN-STANDARD loom speeds mean a loss of actual loom production averaging 3% or more. A slowdown of 6 to 8 ppm. is hard to detect without a stop watch or tachometer. Yet, for only one loom this small production loss amounts to 50,000 picks, or an average of 35 yds. of cloth, in a five-day work week. Multiply this loss by the number of looms in an average mill, and the loss becomes enormous.

What Is the Correct Loom Speed?

While this potential production loss is occurring, overhead costs and indirect labor costs remain the same. And often the repair costs are increased on looms running at subnormal speeds because the looms have a tendency to slam off, cause bobbin-change breakouts, and other malfunctions.

If so few lost picks amount to so much production, it seems practical to make a general increase of loom speed above the standard speed to take care of the 3% loss—but conclusive tests show that there is one correct speed for each model, size, and type of loom. This ideal speed is partly governed by the type of fabric being woven and other local conditions.

If this ideal speed for a given loom is exceeded, loom breakdowns and excessive wear of parts will result; and in addition, warp- and filling-yarn breakages will increase, looms will actually produce fewer pounds of cloth, and worker relations will be injured.

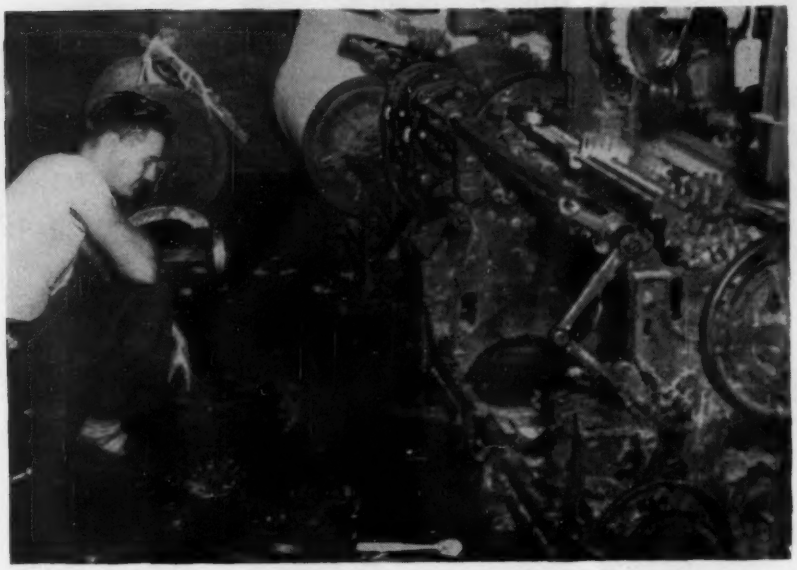
How To Find Your Best Speed

The best speed for a loom can be found by making a detailed study of production and quality reports, loom-stop tests, and labor and supply costs over a period of time. Once a decision on the ideal speed has been reached, there should be no variations in the speed. Trouble always results when loom speeds are changed without making adequate tests first.

The over-all loom speed should be based on a definite standard, and the only way to set the standard is to have every loom operating as nearly as possible at the same speed. Periodic speed checks should be made with a tachometer. Checking loom speeds with a stop watch is not accurate enough because two picks are counted at a time, and it's easy to count too many or too few picks. During the split second at the beginning and end of the count with a stop watch, at least two picks can be added or dropped.

Checking System Controls Speed

A preventive-maintenance system should be used to keep loom clutches in good condition. Have each loom-



ALIGN NEW SHAFTS properly to reduce friction that slows down looms. Newly installed shafts should also be lubricated properly before looms are started.

fixer do part of the clutch maintenance work just as he maintains his shuttles and other loom parts and motions.

Maintenance of clutches includes keeping the cork on the clutch plates in good condition and properly repairing and lubricating clutch fingers, driving cones, arms, sleeves, etc.

Most looms now have individual motor drives, and speed problems on these drives are handled on an individual-loom basis except for occasional switchboard or power-line troubles.

With belt drives, the line-shaft motor, shafts, driver pulleys, belts and driven pulleys or clutches are all sources of lost power and speed. A slipping drive-shaft belt causes production losses for an entire weave room and, in addition, causes loom breakdowns and warp smashes.

Three Problems To Correct

A number of things can reduce the speed of motor-driven looms. A few causes of lost speed and ways to correct them are:

Problem No. 1. Defective wiring or insulation

Repairs of this type aren't made by loomfixers, but the fixers should be able to recognize the defects so that an electrician can be called as soon as the trouble materializes.

Problem No. 2. Wrong-size friction gears or motor pinions

If all the gears are the same size for all looms, no mixup is possible. But looms running side by side sometimes have friction gears of different sizes and, to operate at the same speed, must have motor pinions of different sizes.

To determine the correct-size motor pinion for a given loom, multiply the number of teeth in the friction gear by the desired loom speed, and divide the result by the full-load revolutions per minute of the motor.

For an example, say:

A friction gear has 164 teeth; the motor has a full-load rated speed of 1,745 rpm.; and the desired loom speed is 200 ppm.

$$\frac{164 \times 200}{1{,}745} = 18.8$$

So a 19-tooth motor pinion is needed.

When the number of teeth in both friction gear and motor pinion are known, the loom speed is determined by multiplying the number of teeth in the motor pinion by the motor speed and dividing the result by the number of teeth in the friction gear.

Example:

$$\frac{19 \times 1{,}745}{164} = 202 \text{ ppm.}$$

Problem No. 3. Slippage between the clutch disk and the clutch plate

There are several reasons for this slippage, but most-common causes are:

a. Oil or grease on the clutch lining

b. Shipper handles and connections not adjusted properly

c. Worn clutch fingers or clutch cone

d. Clutch fingers not aligned correctly on the clutch cone

e. Clutch plate and clutch disk not aligned correctly

f. Excessive drag on the loom

The excessive-drag condition is often overlooked by most loomfixers; but extra tension on any springs such as harness springs, the protector-rod spring, or binder springs causes a drag that the motor has to pull. Another common condition contributing to loom drag is tight bearings that either slow the motor down or cause the clutch to slip. Correctly aligned and free-running loom parts contribute much to uniform loom speeds.

Be Sure Gears Are Right

There is some variation in the speed of individual loom motors. Most loom motors have a rated speed of 1,800 rpm. However, some loom motors operate at a speed of only 1,160 rpm. The ratio of the motor speed to the loom speed is about 9 to 1 on the average loom; so considerable variation can be allowed in the motor speed without seriously affecting the loom speed. But if the motor speed is too far from standard, a change in the motor pinion or friction gear is necessary to bring the loom speed up to standard.

Loom clutches with cork inserts are easily fixed when they have to be relined. The worn pieces of cork are punched out, new ones are inserted, and the clutch is reassembled.

Most of the late-model looms have clutch plates covered with solid cork disks that have to be glued or cemented to the plate. If a clutch plate is put back on a loom before the bond has set, the cork will slip on the plate, and another overhaul is necessary. For best results, keep spare plates on hand, and let a relined plate set in the press for at least 24 hrs. before it is used.

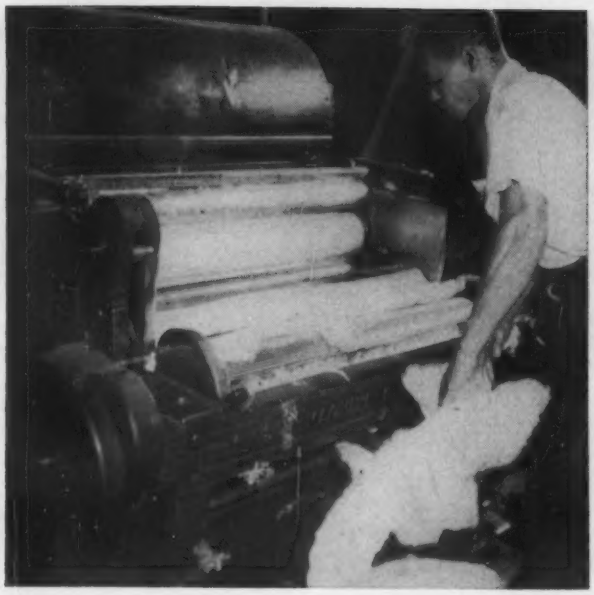
Practice Good Loomfixing

With good loomfixing practices on looms equipped with the correct-size transmission gears, loom speeds are not a serious problem. Then it's only necessary to make periodic speed checks with a tachometer, record the speed of each loom, and have a competent loomfixer locate and correct the trouble on all looms operating at slower than standard speeds.

Another system of keeping loom speeds constant is to check the pick-counter reading of all looms. If production on a loom is low on all shifts, the speed of the loom should be checked. But this system of checking isn't always accurate because production is lost from loom breakdowns and other causes.

machines on all three shifts; now the waste machines are run less than one

DEVELOPING



THIS PICKER TENDER was trained to start laps correctly. As a result, his reject laps and lap waste were reduced.

TANGLED BOBBINS, being run off here, were reduced considerably by the assistant overseer checking the build of each doff.

How One Mill Reduced WASTE

A successful waste-control program needs good supervision, good housekeeping, and education of operators and supervisors. Waste can be saved in—

Opening—with rake controls to eliminate choke-ups

Carding—with waste standards

Spinning—by creeling at the correct time

By W. A. THOMASON, JR., Textile Engineer

THE MANAGER of a Southern spinning and weaving mill set up a waste-control program to hold to a minimum the amount of waste made in processing. He first found out from the accounting department how much it cost the mill to make reworkable waste at each process and how much salable waste cost. Then from the prices received for the salable waste, he determined the final loss to the mill for all waste.

The manager went to the superintendents, assistant superintendents, and overseers and explained to them with his waste figures how expensive waste is.

The next step was to set up standards for the amount of waste necessary at each machine and on each job.

Standards Were Set Up

Some standards were set up on the basis of experience; others were set up by trial. For example, a card tender was trained to see how little waste he could make. Tentative standards were established for his job, and these standards were tried on other card jobs. Final standards were then set up on the experience obtained on these jobs.

After the waste standards were established for all jobs in the mill, responsibility for controlling waste was put directly on the assistant overseer of each room.

Containers are put at each job for each type of waste. Each container is marked with the shift and job. One hour before shift change, each assistant overseer weighs the waste with each operator and puts it into a truck. He keeps a record of the daily weighings of waste and compares them with the standards for each job.

His daily waste records are condensed into a weekly report for the overseer and superintendent. From this weekly report, the cost department gives the superintendent the actual cost as compared with standard cost of waste.

The cost department also keeps a graph up to date for the manager so that he can have an up-to-date picture of the waste cost as compared with standard cost.

Reworkable waste taken back to the picker room has been reduced 75%. Before the waste-control program was started, the mill was running waste

machines on all three shifts; now the waste machines are run less than one shift.

How Waste Was Reduced

Openers

The opening-room man was instructed to pick bagging and to put buckles in a container. He was told to put the old bales on top of the new ones when he laid them down.

All hoppers and feed tables were worked on to cut down on droppings around aprons, and a series of rake controls were made for the opening room and picker room that practically eliminated choke-ups.

The mill found that choke-ups, in addition to making waste, caused an excessive number of neps.

Pickers

Picker tenders were instructed to make good start-ups. Reject laps were reduced considerably. Evener motions were checked to be sure that they were sensitive enough.

A schedule was set up to blow out and clean the pickers each shift. The mill found that dirty screens and beater sections cause uneven laps. One picker was allowed to get very dirty, and the lap from it had only 56% of the yards within limits. The picker was blown out and cleaned—nothing else was done—and the yards within limits increased to 100% on the next lap.

Reject laps are recorded by the picker on which they are made. If too many laps are lost on any picker, it is cleaned, the evener motion is checked, and it may be overhauled.

The mill found that some of its bad laps were caused by hoppers being allowed to get too full or too empty. Operators were instructed to adjust controls to keep an even level in hoppers.

Standards were set for motes in the opening and cleaning machines and pickers. If the percentage changes materially, the droppings from each beater are checked and necessary adjustments are made.

Cards

Card tenders are allowed 2 yds. of waste for each lap: ½ yd. to straighten up the new lap, and 1½ yds. on the butt end of the old lap. An allowance is made for flat strips, motes and fly, and waste caused by ends down.

Card coilers were adjusted to get the maximum amount of sliver in cans. Card tenders were instructed to pack the sliver down to keep it from toppling over.

Each card web is checked for neps after the card is ground, and the num-

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DEVELOPING TEAMWORK

▶What can you tell workers about cooperation to stimulate their interest in teamwork? These eight answers to often-asked questions apply to cooperation at every job level.

1. Who promotes his own interests best, the good teamworker or the lone wolf?

Each has a place in good teamwork. In your own job, you can play the lone wolf in developing your own skills. But when, as in football, the play demands that you block while the other fellow carries the ball, it is time to limit your lone wolfing to a good job of blocking. This principle is true at all levels of work.

2. Of all the authorities in your life—parents, teachers, supervisors—whom do you respect most?

Studies show that the authorities people respect most are those who inspire them to do what they should do or stop doing what they shouldn't do, even though indignation is aroused at the time. Other research shows that no one dislikes parents more than spoiled children.

3. If a fellow employee habitually leans on you to do part of his job, should you put up with it?

No. You were hired and are being paid to do one man's job, not one-and-a-half or two men's jobs. Encouraging a shirker helps him to ruin his career. No one can feel secure and enjoy his own self-respect except by earning it in doing his own job. Teachers who rehabilitate the handicapped rely on this principle.

4. Why do some skilled workers fail as supervisors?

One glaring reason: they failed to develop good teamwork in themselves, and they fail to develop it in others when they are promoted. Babe Ruth was too much of a lone wolf to become a manager. Less brilliant players, on the other hand, become exceptional managers.

5. Is the boss always right?

No. And the able supervisor will be the first to admit it. He depends on his team for help and guidance. But he must decide what to try next to solve an immediate problem. Sometimes a decision different from that of his subordinates is necessary.

6. What do you do when the boss asks you to do something you think is wrong?

If time permits, and you are a good teamworker, you will draw your supervisor's attention to the facts that lead you to feel that he is in error. Silence isn't golden when costly mistakes are involved. If he sticks to his guns, he accepts the responsibility, which is his in any case.

7. What do you do when you realize you have botched up a job because you have misunderstood an order?

Admit it freely. Your total reputation will suffer less damage if you frankly admit your error and tell how you propose to avoid similar mistakes. If your supervisor admires nothing else, he must admire your straightforwardness.

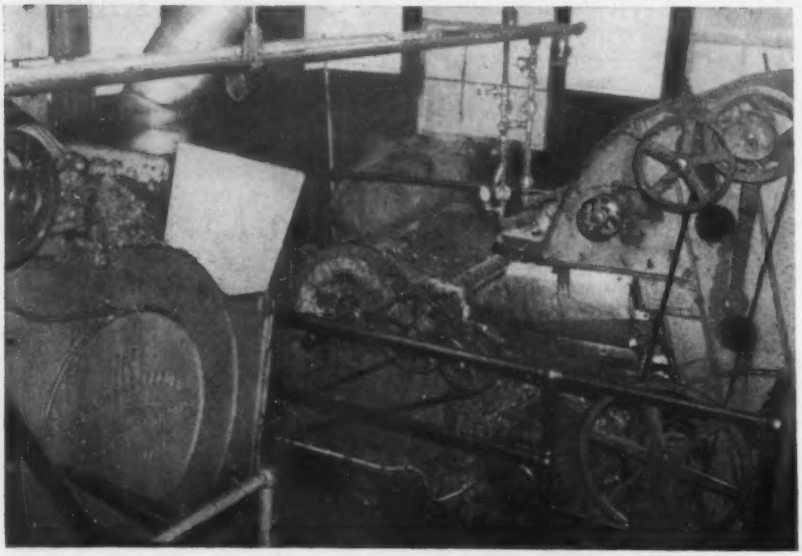
8. Must men like each other personally in order to work together?

Studies show that friendship is pleasant but not essential to good teamwork, as long as the job is put above personal feelings. One study showed what happened when two men who disliked each other were assigned, as an experiment, to a difficult project. Working under pressure, they successfully completed the job and, incidentally, became warm friends.

Du Pont's *Better Living*

(DACRON

How a Woolen Mill Runs a RAG-SHODDY BLEND



TWO-PICKER PROCESS is fed from a Benoit blending system. The first picker delivers to a duck conveyor that travels upstairs to a condenser; then stock is dropped to the second-picker feed box by gravity. A cold oil is applied at the first picker. From the second picker, picked stock is blown to the card room.

FIRST BREAKER of four-cylinder Davis & Furber 60x60-in. set is clothed with Tufferbrute No. 1 to chew up bits of rags, which are still visible on workers. Workers jump perhaps ¼ in. when a rag goes through, without damage to the cylinder wire. Workers to cylinders are set to a loose 28. The stock begins to waterfall at the third worker.

▶ The first breaker in a four-cylinder card set is clothed with coarse kneeless clothing to chew up bits of rag left after a two-picker process. Workers on the first breaker cylinder jump up to ¼ in. with no damage to the cylinder.

By THOMAS B. WINSTON
Assistant Editor, TEXTILE WORLD

WOOLEN YARN for lining cloth is processed from a rag-shoddy blend with a two-picker process and a four-cylinder 60x60-in. card set at a New England woolen mill. Eight and sometimes nine different kinds of stock, including rag bits with seams and nylon stitches, are blended by a 100-lb. Benoit system.

The first breaker is clothed with a heavy kneeless clothing, Tufferbrute No. 1, to handle the bits of rag left after picking. Regular clothing is used on the other three sets—cylinders and workers: 28, 30, and 32; doffers: 30, 32, and 34. Workers are set to cylinders with a 28 gauge, with a tighter 28 on the finisher cylinders.

The breaker cylinder is set to chew up the bits of rag and not to throw them out. Half of the Davis & Furber cards have grids, and no rags fall out. Before the coarse clothing was put on, regular clothing on the first breaker wore out in two to three months and the operation required three picker passes.

The superintendent reports that some of the coarse clothing has been running for two years on the 2/3-run shoddy-blend yarn and other stock, including up to 6-run nylon. The cards are stripped once a shift.

A special cold oil that doesn't heat up in the blend is applied at the first picker.

Card production on the shoddy blend is 70 lbs. per hr. Yarn strength is good enough to maintain weaving efficiency at 92 to 93%.

How To Dye DACRON and DACRON BLENDS

To get best results in dyeing Dacron and blends of Dacron—

- **Use carriers or high temperature**
- **Select dyes suited to the work**
- **Control each step as closely as possible**

Dacron

Satisfactory dyeing of Dacron involves the use of pressure dyeing or carrier dyeing. Lower temperatures give varying degrees of fastness that may not be acceptable for some purposes.

Carrier Dyeing

Carriers have two important advantages:

1. They increase rate of absorption; dyes exhaust better.
2. They increase rate of diffusion, which promotes level dyeing and better fastness to rubbing, washing, and perspiration.

The chief use of carriers is in dyeing top and piece goods. The carriers now used may be divided into three classes: aromatic acids, chlorinated benzenes, and phenols.

Benzoic acid works well but is expensive. It is used mostly on 100%-Dacron fabrics dyed in closed becks at 210 to 212° F. Recovery of some of the benzoic acid is possible and desirable. Excellent washfastness and lightfastness are obtained, since this carrier scours out easily and remaining traces sublime off during drying.

Chlorinated benzenes are good carriers but must be used in closed equipment with adequate ventilation to remove the toxic vapors. Temperatures of 180 to 200° F. are maintained in dyeing to avoid excessive loss from distillation. Spotting may also occur when condensation of the steam-distilled carrier falls on the goods.

Of the phenols, ortho-phenylphenol is the most widely used. It is cheap and widely available, and smaller amounts are required.

From a paper presented at the International Congress of Man Made Textiles by J. F. Laucius and P. J. Meunier.

Properties of Different Carriers

Carriers	Concentration (grams per liter)	Cost per 100 lbs.	Lightfastness	Hazards
Cresol	20.0	$3.20	Fair	Vesicant-irritant
Benzoic acid	20.0	8.50	Good	Mild irritant
Salicylic acid	20.0	7.40	Fair to good	Mild irritant
Monochloro-benzene	20.0	2.50	Good	Toxic
p-Phenylphenol	2.5	1.35	Poor to fair	None
o-Phenylphenol	5.0	2.08	Fair to good	None

It is necessary to remove as much of the carrier as possible by scouring after dyeing so that lightfastness is affected as little as possible. Where 100% Dacron is being dyed, caustic scours at 180 to 200° F. following dyeing are employed; with blends, neutral baths are used at similar temperatures.

Selected Latyl, Acetamine, and Celanthrene dyes have sufficient fastness to offset the small amounts of ortho-phenylphenol. When resins are used in finishing, the high curing temperatures help remove the carrier.

High-Temperature Dyeing

Raw stock and top of Dacron are being successfully dyed at 250° F. in circulating machines either especially designed for the purpose or adapted from older types. Disperse dyes, exhausted by the addition of 1.5 to 5.0 grams per liter of sulfuric or acetic acid, are used at temperatures up to 250° F. Diazotizable disperse dyes may be used at temperatures up to 250° F., followed by development with beta-oxy-naphthoic acid and nitrous acid at atmospheric pressure.

High-temperature dyeing is faster, gives better leveling, and reduces chemical costs. Heavy shades are faster to rubbing and wet processing, and light shades retain maximum lightfastness because no carrier is used.

Dyes for Use on Dacron

The new Latyl colors plus some older types supply a full range of colors of excellent fastness to light and washing. The following are widely used:

Latyl Yellow YL
Celanthrene Fast Yellow GL 300%
Acetamine Yellow N
Acetamine Yellow CG
Acetamine Yellow 4RL
Latyl Red B
Celanthrene Cerise B
Celanthrene Red 3BN Conc.

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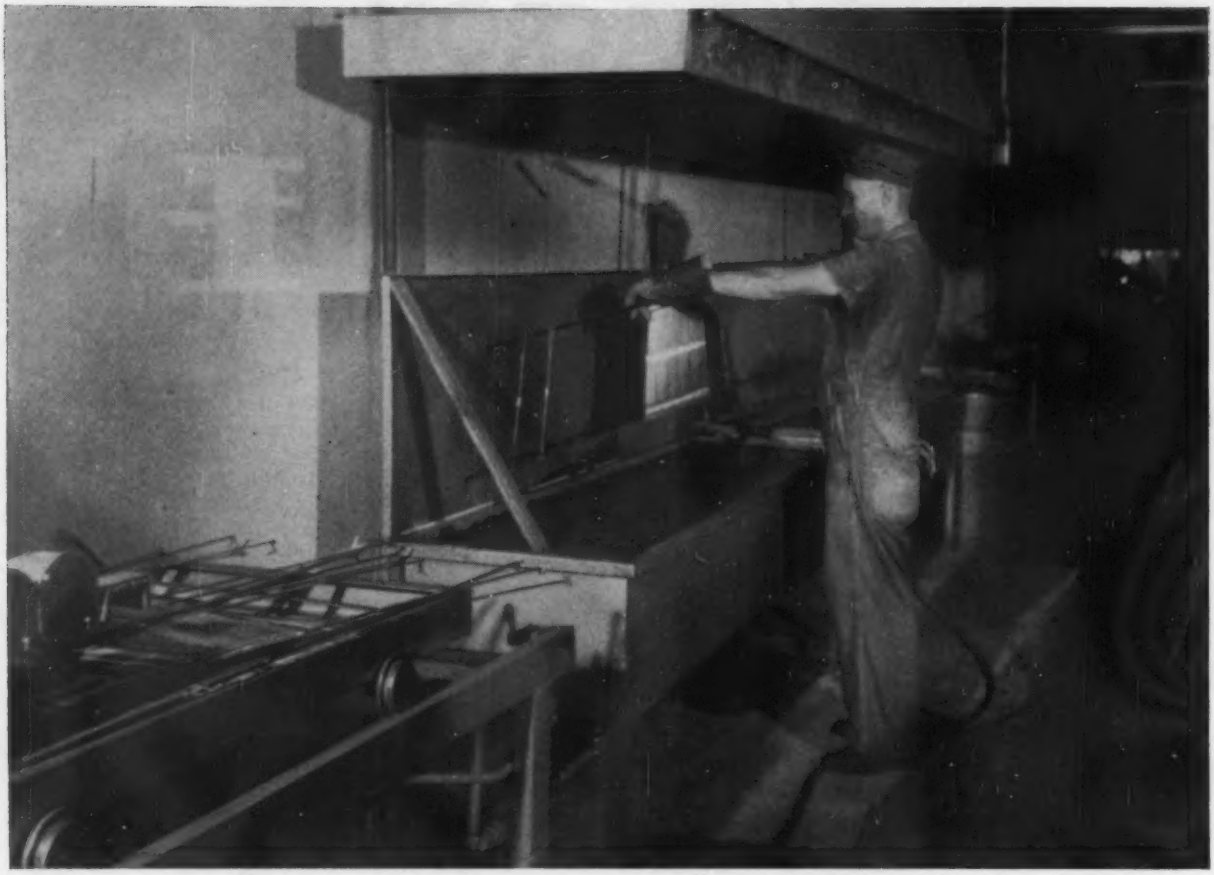
to a loose 28. The stock begins to waterfall at the third worker.

efficiency at 92 to 93%.



CLEAN CLOTH results from reeds, heddles, and drop wires cleaned at every warp-out.

Clean Warp Equipment KEEPS CLOTH CLEAN

▶ Reeds, harnesses, and drop wires are cleaned well at warp-outs. Then new warps start up weaving clean cloth.

By **RICHARD B. PRESSLEY,** Associate Editor, TEXTILE WORLD

KEEPING CLOTH CLEAN while it is being woven requires very little effort. Dirty harnesses, reeds, and drop wires are a great source of dirt in cloth.

Light Shades Are Woven

Starting new warps with clean reeds, harnesses, and drop wires is particularly important at this Eastern mill because taffetas, satins, dope-dyed fabrics, and other filament-rayon fabrics finished in light shades are woven. Without proper warp-equipment cleaning, warp streaks occur through the first few yards of woven cloth and occasional dirty streaks in small widths appear throughout the first cut of cloth.

To prevent dirty streaks in warps, a maintenance man in the drawing-in room thoroughly cleans the warp equipment every time a warp is cut out of a loom. He uses standard methods developed at the mill. No unusual manufactured equipment is used to clean the equipment; so cleaning costs are low.

Used reeds are held until a dozen or more have been gathered. All these reeds are hand-stoned on both sides with a reed stone. Then they're cleaned and polished by hand with steel wool.

Bent reeds are straightened with reed pliers and a reed-straightening spoon. Cut places are removed with a block of reed size.

After this treatment, the reeds are brushed with a bristled brush in a conventional reed-polishing machine.

Solution Floats Dirt Away

Stoned and polished reeds are taken to a tank and cleaned. The tank is made of sheet metal and is 6 ft. long, 2 ft. wide, and 2 ft. deep. A

CONTINUED ON PAGE 214

PREBOARDED STOCKINGS are carefully placed in the dye bag. Close attention is given to leg lengths, and 4 doz. hose are laid in one bag.

TRAY DRYER is operated by one girl, who processes about 400 doz. stockings each day. The drying cycle is 3 mins. at 302° F.

HOSIERY DRYER
Eliminates Final Boarding

▶ A tray dryer for full-fashioned hosiery speeds production, reduces pull threads, and makes pairing easier

By **JAMES H. BLORE,** Associate Editor, TEXTILE WORLD

BY INSTALLING A TRAY DRYER, Eaton Knitting Co., Hamilton, Ont., is keeping costs down because production is speeded and seconds from pull threads are reduced. The dryer, built by Proctor and Schwartz, Inc., is used for women's hosiery. One girl, operating one dryer, can prepare 400 doz. hose each day for the pairers.

Special care is taken during knitting and preboarding to get stockings of equal lengths.

The preboarder removes the stockings from the forms, and each dozen is folded by bringing the toe over to the welt and doubling the stocking over again. The folded stockings are laid on a board in 9-doz. lots.

A service girl then rolls each dozen pack of stockings and places them carefully in a cotton bag. The number of stockings in the bag depends upon the construction of the stocking. There are 4 doz. 15-den., 60-gauge and 4 doz. 15-den., 51-gauge stockings placed in each bag.

Extract for Longer Time

The bags are tied with waste, and the stockings are dyed and extracted. To prevent sizes getting mixed, knots are tied in the waste that closes the bag. Extraction time is a little longer than for conventionally treated hosiery.

After extracting, the bags are sent to the dryer, where the stockings are removed by the dryer operator. The stockings are smoothed out on a table to the left of the dryer. The table has standard leg lengths marked on it, and each lot is checked for length.

Special care is given to keep the welts smooth. The toes of each 1-doz. lot are folded over to the welts, and the dozen is laid on the open tray of the dryer. There are 4 doz. stockings laid out on the tray at one time.

Dry 3 Mins. at 302° F.

While the stockings are prepared and laid on the tray, another 4-doz. lot of stockings is drying in a second tray. When this second tray has been subject to a 3-min. treatment at 302° F., the drying cycle automatically stops.

The open tray, loaded with stockings, is then pushed in and the 3-min. drying cycle commenced. The second tray is then pulled out and unloaded. The stockings are laid on boards on a table at the right of the dryer.

The boards are laid out on 12-in.-high racks, and the stockings are rested for 12 hrs. before pairing. Because the leg lengths are more even from the dryer than from the conventional forms, pairing production is increased.

3 ELECTRIC-MOTOR PROBLEMS

1. Cleaning

Lint and dirt burn up motors, but a definite cleaning schedule stops these failures

Cleaning is the first important problem in an effective motor-maintenance program. To get the best results from cleaning, you must have definite cleaning schedules and follow through on them.

There are two ways to handle cleaning: (1) have electrical-department supervisors direct all cleaning, and (2) have the cleaning done by regular mill cleaners.

When the cleaning is not under the supervision of the electrical department, electricians must continually make spot checks. If the cleaners are lax in motor cleaning, the mill superintendent or other proper authority must be notified so that the condition is corrected.

The insulation in a motor cooks rapidly when the air passages get clogged with lint or dirt and proper cooling is cut off. This condition is especially critical when a motor is running 24 hrs. a day under a full load.

Cleaning should be done with compressed air as dry as practicable and at pressures no higher than 50 psi. Direct the air current into the motor

2. Lubrication

Too little or too much oil takes its toll of motors, but proper maintenance stops this wear

Lubrication is one of the most important items of motor maintenance. The lubricant in most bearings should be replenished at regular intervals. The time of renewal depends on the type and size of the motor and the kind of service. The frequency of lubrication can be determined only by regular inspection.

Lack of proper oiling and greasing is disastrous to motors, but too much oil or grease is about as bad as too little. Excess oil gets in the windings and deteriorates the insulation. Too much oil also causes dust and lint to stick inside the motor so that it's practically impossible to blow it out with air.

3. Overhauling

Worn motors quit on the job, but correct overhauling methods bring them back to life

Most motor-winding failures result from the rotor rubbing the laminations of the stator and are caused by worn bearings. Even a slight rub generates enough heat to destroy the coil insulation. This condition causes a burned-out motor although the motor may have the proper controls for protection.

Periodic checking of the air gap between the rotor and stator with a feeler gauge to detect worn bearings eliminates these winding failures.

Motors removed from production machines should be overhauled before they're returned to service. When a motor is brought to the shop to be overhauled, it should be taken outside the shop and blown off with compressed air to remove as much dirt and lint as possible.

Then disassemble the motor in the shop and clean all the parts. If the stator is oily, clean it with steam and a detergent solution; and then clean it with clear steam until all the solution is removed.

Dry Insulation in an Oven

After the stator is cleaned with steam, put it into an oven immediately to dry. Don't let the stator remain wet because moisture will be absorbed by the coil insulation while it is cooling, and the insulation will be difficult to dry out. If the stator is put into the drying oven at once, the moisture from the steam will be evaporated without penetrating the insulation.

The stator should be baked at 225 to 235° F., until the insulation resistance becomes constant. The process usually takes from 8 to 24 hrs. When the stator is thoroughly dry, take it from the oven and let it cool to within approximately 25° F. of room temperature. Then dip it in a container of varnish and let it stay

Based on a paper presented by K. A. Richardson, Bibb Mfg. Co., at a recent Atlanta,

And How To Solve Them

in such a way that dirt will not be driven into the windings. Care should be taken, too, to prevent blowing the insulation off the windings.

Where oil has worked from the bearings onto the frame, wipe it off with a cloth, not waste. In severe cases of oil leakage, wash the oil off with mineral spirits; and be sure no lint is left around the bearing housing to draw out the lubricant.

Waste Yarn Causes Failures

Bearing failures from motors mounted on or near the floor are often caused by yarn falling to the floor and being sucked into the end of the motor and then winding on the shaft. In these cases, the yarn winds to the bearing housing and causes enough friction to create heat on the housing. Overheating follows, and the grease in the bearing breaks down.

In other similar cases, the waste yarn actually works under the grease seal and locks the balls in the bearing; immediate failure follows.

Motor failures from this trouble occur frequently on yarn winders. To prevent the yarn from entering the motors, make a screen from ¼-in. mesh hardware cloth to fit over the air intakes on the motor brackets. The screen becomes covered with lint quickly, but the lint does not retard the air enough to cause overheating.

The older general-purpose motors are not easily cleaned. Close supervision in cleaning these motors is needed to prevent cleaners from blowing off the outside of the motors and leaving the inside full of lint and dirt. This is where most damage is done if it's not kept clean. The textile-type motors are much easier to keep clean.

Excess grease causes ball bearings to heat. In some cases, the grease breaks down and the bearings fail.

Select Your Lubricant

The kind of oil and grease used is equally as important as a definite lubrication schedule. Generally, you can follow the recommendations of the motor manufacturer or experienced oil companies. However, unusual conditions in equipment or location of equipment make these recommendations impractical.

Where unusual conditions exist, oil-company engineers should be called in to help you make a study of the special problems.

The problem of oiling ring-type oil bearings is easily solved by using automatic oilers with clear-plastic or glass cups. With these oilers, the oil level to be maintained is set at the installation and remains constant as long as oil is in sight in the cup. Then oil is added without wasting time when it becomes low.

until the varnish has stopped bubbling.

Drain all excess varnish from the stator and put it back in the oven. If common insulating varnish is used, bake the stator for 8 to 10 hrs. at 235 to 250° F.

Remove the stator from the oven, and clean the varnish from the metal surfaces while they are still hot. The varnish is removed easily if the metal is not allowed to cool and set the varnish up hard.

Repair the Rotor

Check the rotor with a growler to determine if any of the bars are open. Correct any open bars, if possible. To correct this condition, braze the bar ends to the ring; or drill a hole and use a wedge to expand the bar tightly into the ring.

If rotors have the bars in the shorting ring in one casting, the rotor has to be replaced.

Check sleeve-type bearings for wear, and replace worn ones. Check ball bearings for wear and noise. Noise usually indicates rough balls or a rough inner race. Replace bad bearings.

Check the shaft for wear and alignment. A slightly bent shaft can cause a lot of trouble. Worn sleeve-bearing shafts should be built up or replaced.

Allow 0.0005-In. Tolerance

Ball-bearing motor shafts should not be worn more than 0.0005 in. under the inner-race measurement of the bearing. A good test of shaft size is: if the bearing will slip on the shaft without being heated slightly, it is too loose. But if the bearing has to be heated very hot to get it on the shaft, it is too tight.

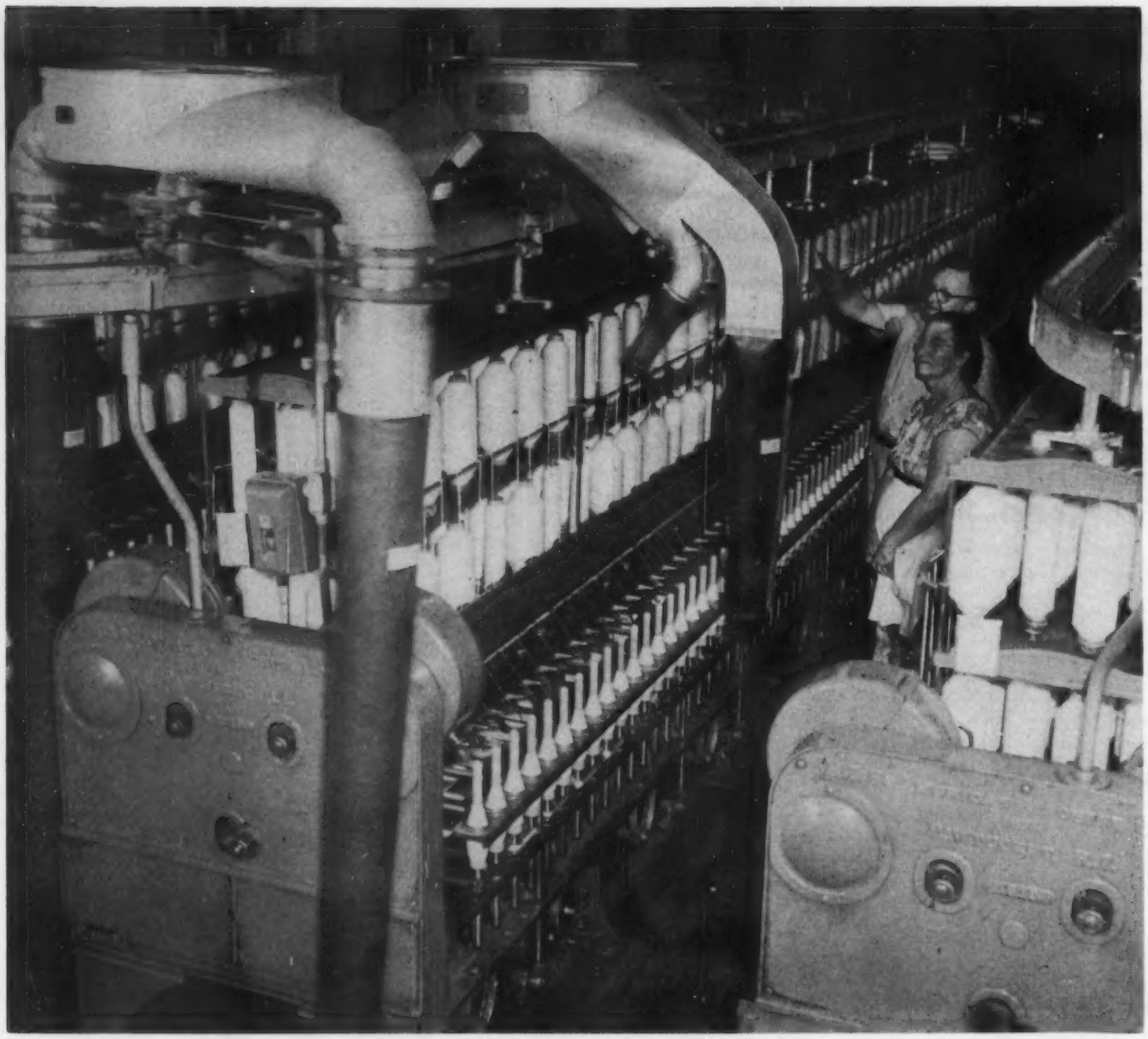
When a ball bearing is put on a shaft too tight, the inner race is either distorted or expanded. Either condition causes preloading of the bearing. The result is heating and short bearing life.

Check the motor housing at the ball-bearing position for wear. The size of the opening should be 0.0005 larger than the outer-race measurement of the ball bearing being used. The ideal fit is to have enough clearance to allow the outer race to creep in the housing while the motor is running. But this creep size is hard to obtain and often results in wearing the cast-iron housing until the bearing gets loose enough to chatter. When chattering starts, the housing soon wears excessively.

This housing bracket can be bored out and bushed at less expense than a new one. Best results are obtained if the bearings are fitted snugly in the housing. Then the bearings do not become loose and wear the bushings or housing.

Ga., meeting of the Textile Subcommittee, American Institute of Electrical Engineers.

HAND CLEANING in the spinning room has been reduced over 50%



THE AUTOMATIC CLEANING UNIT consists of a Parks-Cramer Type CTF frame cleaner, CTR room cleaner, and CTS floor sweeper. The spinning overseer, J. B. Boyter, is shown as he points out a feature of the cleaning unit to Allie Mae Thomas, spinner. High-velocity air from the frame cleaner cleans the entire frame and underframe, the floor sweeper moves the settled lint to central alleys for easy removal, and the room cleaner continuously blows down the ceiling area.

New Spinning-Frame CLEANER Cuts Hand Cleaning Over 50%

►A combination frame cleaner, floor cleaner, and floor sweeper in the spinning room at Robinson Mills, Inc., Dallas, N. C., has cut hand cleaning over half

By W. A. THOMASON, JR., Textile Engineer

HAND CLEANING in the spinning room has been reduced over 50% at Robinson Mills, Inc., Dallas, N. C. The spinners used to run out guides three times a shift; now they run out guides once a day. They used to run out back guides once a day; now they do it twice a week. They used to blow off the frames once a week; now they do it three or four times a year.

The new cleaning schedules are the result of the installation of a new automatic cleaning unit. The new unit consists of a Parks-Cramer Type CFT frame cleaner, CTS floor sweeper, and CTR room cleaner.

How the Cleaner Works

The frame cleaner has a long sleeve that extends down to the spindles and delivers high-velocity air inwardly to clean rails, thread board, roll-stand area, and the underframe. Additional air currents from this sleeve and other outlets clean the creel, roller beam, drafting area, roving, and cleaner track.

The floor sweeper follows the frame cleaner and has an extra-long sleeve on each side that extends almost to the floor. The floor sweeper is designed to work in conjunction with similar units on adjacent tracks to move settled lint to central alleys or wall alleys for easy removal. It delivers automatically directed air currents along the floor.

The room cleaner is part of the unit. It directs air currents to most overhead surfaces, including lights, pipes, conduits, posts, walls, beams, duct work, and ceiling. It practically eliminates blowing down of these fixtures and the ceiling.

Long Sleeves Are No Worry

The long sleeves that extend below head height have patented flexible cuffs of soft impregnated fabric that will yield when they come in contact with any object. The spinners say that the sleeves don't bother them. At first, they didn't like the idea of long sleeves coming down the alleys; but they soon found out that the sleeves couldn't hurt them at all. They like the cleaning that the new unit does.

Air velocity is controlled independently for the areas being cleaned. High-velocity air is needed to clean the rails, thread boards, weight hooks, back guides, and underframe. Lower velocity air is required for drafting areas, creels, roving, and the track.

The 63 H&B 3¼- and 3¾-in.-gauge spinning frames are equipped with new spindles to give traverses of 9 and 10 ins. New Whitin long-draft changeovers have been installed, and the frames are being equipped with umbrella creels to take full 10x5 bobbins of roving.

CLEANING Kinks Used at Robinson

Spinning Overseer J. B. Boyter has developed many parts and items of equipment to improve various jobs and has won several prizes in TEXTILE WORLD's Kinks contest. Among his ideas that are in use at Robinson Mills are a back-guide brush unit and a roll-picking tray. The new automatic cleaners, together with these hand-cleaning tools, practically eliminate the possibility of any spinning waste getting into the yarn.

Here are the two cleaning Kinks—

A ROLL-PICKING TRAY keeps lint from making slubs in the yarn. The tray is easily moved from one stand to the next. It hooks over each reel stand and extends above and over the bobbins. Picking the rolls in this picture is Alma Snider.

BACK GUIDES and weight hooks are cleaned with this special brush unit. Sue Lineberger shows how she uses the cleaner. The pipe around the brush handle keeps slubs from getting into the yarn. The back guides are now cleaned twice a week; they were cleaned once a day before the new frame cleaner was installed.

started, quiller production had increased to 117 bobbins per minute.

stop when a unit hangs at the machine head results in great damage from

not hanging and that the brushes are not too low.

Highlights--

One mill running 1,440 quiller spindles found that keeping the quillers clean, without extra labor costs, netted these results—

- ✔ Saved $4,000 a year in burned-out stators
- ✔ Increased production 37%
- ✔ Cut soft filling bobbins 80%

You Can Save Money By Keeping QUILLERS Clean

By J. R. CROWELL

THE MOST IMPORTANT PRACTICE in maintaining Abbott quillers is to keep the machines clean and well oiled. Where only three or four quillers are used in one plant, the problem isn't a big one; but in our plant we have 12 quillers of 120 units each running filament-rayon yarns.

Production Was Low

The number of looms in our mill had been increased from only a few hundred to several hundred; and as looms were added, more Abbott quillers were added. We were still using our old job layouts for three-shift operation, but production was low.

Viscose yarns of 150 den. were run at 4,460 rpm., and 150-den. acetate yarns were run at 5,220 rpm. The full-bobbin diameters were 1 in. on viscose and 1⅛ ins. on acetate. At these speeds and diameters, we should have been producing 115 to 118 full bobbins every cycle, but our actual production was only 85 bobbins per cycle.

Job layouts were set up this way:

1. One operator on each shift tended two quillers. There were a total of six operators on each shift. An operator's duties included:

a. Creeling full cones of filling yarn

b. Handling all pinboards

c. Inspecting filling placed on the pinboards by the machine

d. Removing any bobbins not full enough to go to the weave room

e. Placing full pinboards of filling on weave-room filling trucks

f. Brushing off the sheepskin disks under the yarn cones every 8 hrs. to remove any loose ends the mechanical remover misses

2. There were two section men per shift. Each man had six machines and was responsible for:

a. Cleaning

b. Keeping up the entire six machines mechanically

One yarn boy kept the overhead racks filled with yarn so that the operators could creel from this rack. The yarn boy also kept bobbins in the hopper, which is operated by a lift.

We Had Lots of Trouble

With these job layouts, our section men were unable to maintain the quillers properly. We were having 35 to 40 stators burn out in the units every month, and the electrical repairs on each burned-out stator cost $8.80.

A close check of our mechanical and production troubles showed that most of the trouble came from a lack of cleaning. Since our labor budget did not permit adding extra employees, we hit on the following method. We had a sweeper on each of the first two shifts in quilling, and quilling and slashing were under the same supervision; so we gave the sweeping assignments to other service men in both departments.

These two sweepers were taken completely off the sweeping jobs and each given six quillers to clean. At first they could not clean a complete quiller each day; but by the time they started cleaning the machines the second time, they were able to clean two frames each day.

In addition to the regular cleaning on two quillers, they were able to take all the tension disks and porcelain posts off one frame each week and wash them in mineral spirits.

This schedule resulted in cleaning the tension disks and posts every six weeks.

Production Jumped Up

Keeping the disks clean reduced the soft filling sent back from the weave room approximately 80%. Soon after the revised cleaning schedule was

Waste Standards Were Set

started, quiller production had increased to 117 bobbins per minute.

These methods are used to clean the machines; all cleaning is done without yarn on the quillers:

1. To clean the copper track, 8 to 10 units are removed and the empty portion of track is cleaned with rags and Varsol. Then the track is oiled lightly to prevent wear.

The machine is started, and the empty unit spaces are stopped at the adjoining section of dirty track so that the track can be cleaned. This cycle is repeated until the complete track is cleaned.

2. A clean rag and brush are used to clean the units. The machine is started up, and the cleaning man stands at the return end of the machine and wipes the units as they pass.

3. A small round brush is used to clean the wires and brushes at the back of the units. With the machine in motion, the cleaning man cleans this portion of the units from his position at the return end.

4. The rail the units travel on is constantly cleaned by a soft pad attached to the supply-package upright bracket.

Now that all cleaning has been taken from the section men, they can give their full time to oiling, fixing, and checking the quillers. In general, the check-off system recommended by the quiller manufacturer is followed. With this system, every machine is checked every 24 hrs.

Daily Checking Pays Off

The daily check of the frame is:

1. Remove all thread from behind the chuck. Waste thread behind the chuck overloads the unit motor and burns out the stator.

2. Replace worn or driving washers. If a washer is worn badly or lost, the bobbin goes too far in the chuck and the bunch starts too far up on the bobbin. This condition results in run-out filling at the loom.

3. Check and oil the variable-speed sheaves.

4. Check the diameter of full bobbins with a caliper rule. Viscose diameter is 1 in.; acetate is 1⅛ in.

5. Check for broken or lost wires and thread-guide eyes.

6. Check the drag link for weak springs. To make this check, watch the units as they travel through the head. If the spring is weak, the unit drags in its return movement. Sometimes a weak spring stops the machine.

7. Check the brake and clutch and reline them if necessary. It's important to make this check every day because a worn brake prevents the machine from stopping quickly. A slow stop when a unit hangs at the machine head results in great damage from broken parts.

8. Check for rough or corkscrew-shaped bobbins. Most uneven bobbins are caused by worn or lost cork friction bushings in the thread guide. Bushings with too much or too little oil will also cause uneven bobbins because the bushing will not slide smoothly on the traverse bar.

9. Check the thread guides and porcelain eyes for cracks or nicks. Excessive glue will also fray and break the yarn.

10. Check all the upright brackets for the yarn cones to see that they are in alignment and tight.

Checklist Keeps Heads Working

Daily checks of the head include:

1. See that the air lines are free from water. To keep the lines free from water, drain the filter and replace the steel wool every six months.

2. Check bobbins for correct chucking.

3. Check the thread cutter for sharpness and for correct cutting.

4. Check the bobbins to see that they line up correctly for the pinboard.

5. Check the tail cutter. We use two cutters. One is set on the back side of the quiller and cuts the tail when the bobbin is about one-fourth full; a second tail cutter is located at the center of the return side of the machine to cut any tails the first cutter misses.

6. Check the loose-end remover to be sure the suction is strong enough.

7. Check the hopper parts, and clean and oil them.

8. Oil the hopper-guide pinion stud.

9. Check the units as they go through the head to be sure they're not hanging and that the brushes are not too low.

10. Check the bunch builder to be sure it's in alignment. Be sure the bunches being built are not flat and too high on the bobbins. On 150-den. yarns, we set the bunch-builder bar on the overhead cam approximately 3 ins. long. This setting gives 8 to 9 yds. of yarn on the bunch. A 4½-in. setting is made for 300-den. yarns.

11. Remove five units from a machine each day. Completely tear down the units and check the bearings, cams, cam-roller thread guide, and traverse bar for wear.

Production Leveled Out

We also check all machines each week with this checklist:

1. Check the drag-link plates for straightness. Straighten the bent ones or replace them with new ones.

2. Check the drag-link stud insulator for position and physical condition.

3. Check the detector-wire bearings for wear.

4. Check the mechanical condition of the copper track.

5. Check and align all yarn packages to the center of the eyes in the tension brackets.

6. Check the clutch and replace the cork disk if necessary.

7. Loosen the chain and check the sprocket internal gear for wear.

8. Clean the sprocket internal gear, and clean and inspect the pinion. Put on new grease.

We did not change the quiller operators' workload or job methods.

With the new method of cleaning and servicing the 12 Abbott quillers, our production averages 117 bobbins of firm and well-formed filling per machine per cycle.

Humanics — **A TW Brief**

Supervisor Has the Authority

Do you have a new-man headache? Listen to this supervisor tell about his problem:

"The new man on my shift is a slow learner. He seems smart enough, but he doesn't pay attention to what I tell him. I think he resents me or feels that I don't like him. And, to tell the truth, his attitude makes it harder for me to want to help him."

With cooperation between the supervisor and the personnel department, the authority of the supervisor can be emphasized during the hiring procedure. With the supervisor calling the plays and the personnel department supplying information, new employees get the unmistakable impression that the supervisor runs his own department.

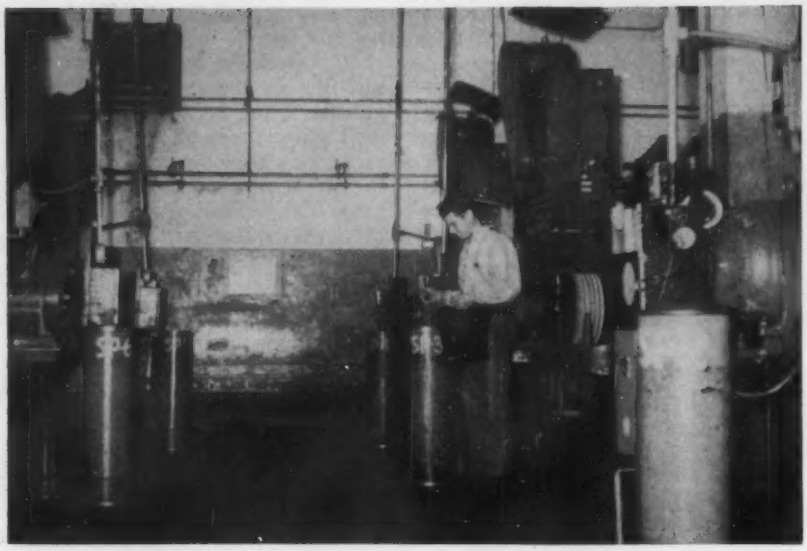
With such a hiring procedure, supervisors and personnel-department people get to understand each other's problems better and employees get nowhere by trying to play off the supervisor against the personnel department.

P. B. Comer
The Evaluation Institute

a. Cleaning full cones of filling yarn

production troubles showed that most

the revised cleaning schedule was



WASTE CANS are marked with letters for the department and numbers for the machine. All containers were weighed and adjusted to a standard tare weight. Operators get a bonus for maintaining waste standard.

How a Worsted Mill Saves on WASTE

Highlights of this waste-control program:

- **One man weighs all waste**
- **Waste standards were set up for each job**
- **Bonus of 5¢ an hr. is paid to operators for meeting waste standard**

By P. WIERKS

TWO YEARS AGO, a Canadian worsted mill decided it was time to cut down on waste. Waste was then running at an average of 13%. Today, waste is running at 7%, and the yearly savings are considerable as the result of a waste-control program set up with the help of Werner Textile Consultants.

The highlights of the waste program are condensed in these three steps:

1. Weighing waste
2. Setting up waste standards
3. Including wages in the waste program

One Man Weighs Waste

No waste figures were available, and the mill had to start from scratch. The first step was to weigh daily the waste of every individual operator or team of operators if the waste couldn't be separated for each individual. To facilitate the weighing operation, waste containers were purchased. (These containers were the only major material expense in the two years.) The waste cans were marked with a letter for the department and a figure for the machine where each belonged.

All containers were weighed and adjusted to a standard weight. To get the weight of net waste, the can and waste were weighed together; then the fixed tare weight was subtracted from the total.

The mill had a choice between appointing a man to do all the weighing or having it done in each department. A special weigher was selected for two reasons: (1) tighter control and (2) to avoid favoritism. At the end of the week, all waste figures were sent to the quality-control department for analyzing.

Waste Standards Were Set

Nothing happened for a few weeks, but slowly the figures started to form a pattern that was reasonably alike every week. A small difference in departmental and total-waste percentages showed up each period, but after three months enough figures were available to set tentative waste standards.

For the departmental standards, all weekly figures were added and the total divided by the number of weeks. The total of all departmental standards was taken as the mill total. Next, a standard percentage was set per operator or team of operators. In some cases, a machine was running on a yarn number for more than one shift; and a standard was set per yarn number per shift.

A close check was kept on the standards; and every six months a revision was made, which sometimes reduced the percentages allowed by more than 10%.

Waste Bonus Paid

The big problem came after the first two steps were completed. The program wasn't intended to find how much waste was being made and where; the purpose was to reduce waste.

After deliberation, management decided to use the strongest incentive in industry: money. A waste bonus would be paid to all operators. Hourly earnings were studied to determine the effect of a bonus on the wage rate. It was decided that a bonus of 5¢ per hr. would be high enough to stress the importance of waste reduction. However, the critical point was to find a way to make operators feel that they had a real share in the waste-reduction program. Here is how the mill handled the situation:

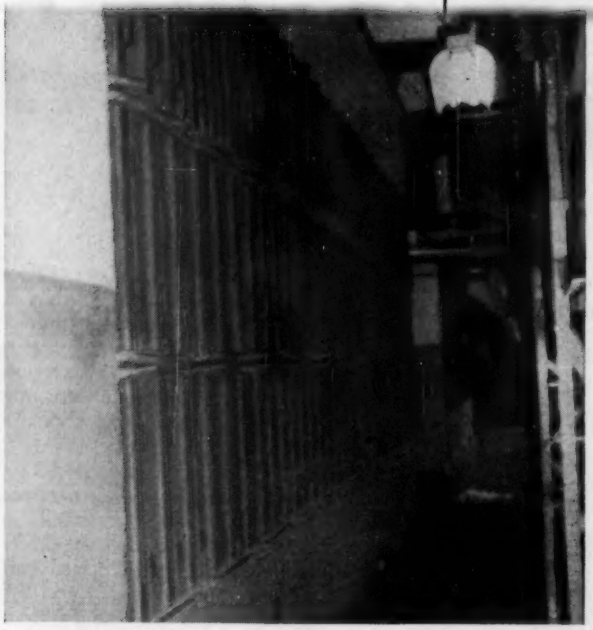
Suppose the average earnings of a group of operators was $1.10 per hr. By reducing the piece rate to $1.075 per hr. and paying a 5¢ per hr. bonus for quality, the average earnings were increased 2½¢ per hr. and the operators were given a share in the waste reduction.

Through departmental meetings, a conscientious explanation, backed up by facts and figures, was given to all operators. In all cases, the operators agreed with the bonus plan.

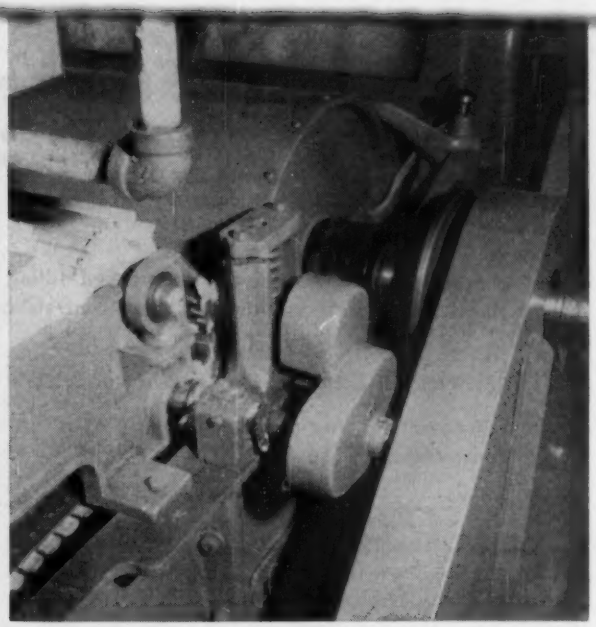
After this step, results began to show. As each group of operators was included in the bonus system, which was gradually put into effect over a six-months' period, the waste percentage for the process came down immediately.

For one department, the waste drop was 32%.

P. B. Comer
The Evaluation Institute



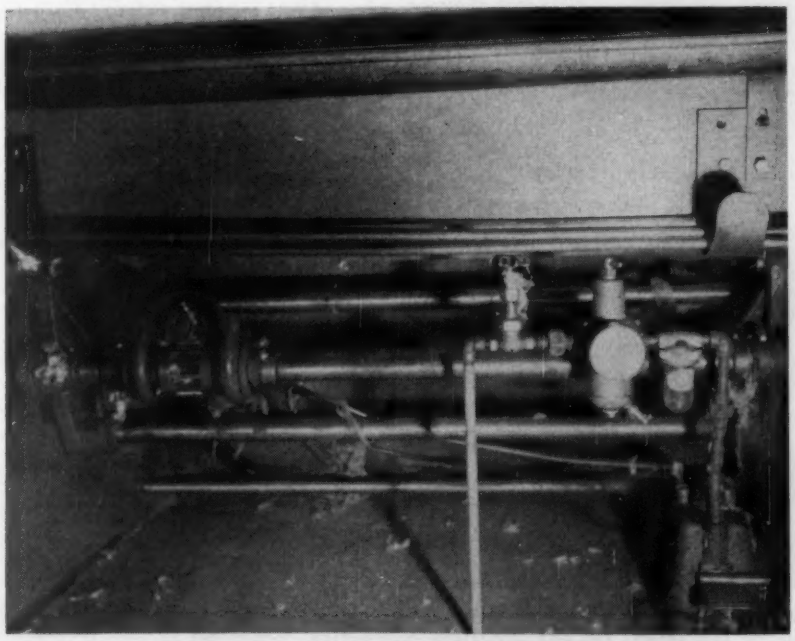
FILTER ROOM receives dusty air from screen sections. Filters are made of glass fiber with a paper backing in a metal frame, and they are cleaned weekly. The filtered air is blown back into the picker room.



BALL BEARINGS are used on most rotating parts of the pickers. The ball bearings, by eliminating most of the oiling and greasing formerly done, decreased maintenance costs.

This Mill Scrapped Five PICKERS And Boosted Production, Cut Costs

▶ The new picker room at Eagle & Phenix, with a little more than half as many pickers as the old room had, has increased production 20% and reduced labor costs 70% with an accompanying improvement in lap quality.



CALENDER-ROLL LOGGERHEAD is braked by air pressure at 70 psi. Air pressure is uniform and contributes to a longer, firmer, more-uniform lap.

By MICHAEL LONDON
Assistant Editor, TEXTILE WORLD

EAGLE & PHENIX DIV., Fairforest Co., Columbus, Ga., which recently operated its picker room with 13 pickers, has thrown out five pickers and yet increased production 20%. Labor costs have been reduced 70% in the opening and picking rooms and in the waste house.

Recently, the number of bales per mix was increased from 40 to 48 for more evenness. The bales are fed to eight hoppers, six bales to a hopper. Two opening lines with eight hoppers each are used for two separate cotton mixes. Each set of hoppers feeds two openers and four pickers.

To eliminate fire hazards, a magnet in the conveyor duct leading to the openers removes any pieces of metal that might be present in the stock.

Air cleaning, by means of a Super-Jet cleaner in the opening line, has been found to increase the evenness

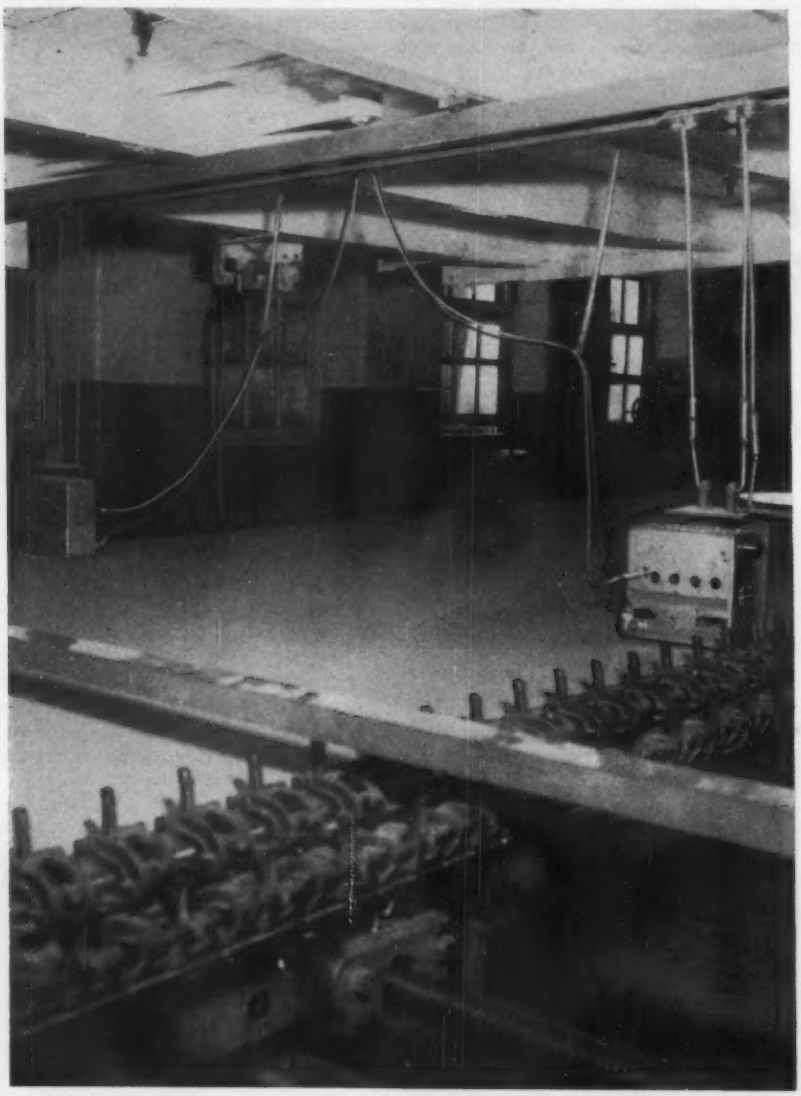
CONTINUED ON PAGE 168

How One Mill Stopped BIASED FILLING

Fieldcrest Mills, Inc., had trouble with crooked filling in wide sheetings until it developed a weft straightener that controls biased filling automatically. With this device—

- **Deviations of as little as ¼ in. can be corrected**
- **A new detection principle is employed that is not affected by weight or construction of the fabric**

By JOHN T. MacISAAC, JR.
Manager, Mechanical Development Dept., Fieldcrest Mills, Inc.



SCANNING HEADS pick up signals from fluorescent dye across the cloth or at the cloth selvages. In response to these signals, photoelectric cells actuate the weft straightener to overcome bias.

AT ITS SPRAY, N. C., PLANT, Fieldcrest Mills had trouble that is common to most sheeting manufacturers—biased filling. Manual straightening at the last framing operation required constant attention from one employee, and results were still unsatisfactory.

When pieces with biased filling came to the fabricating department, time and labor were expended in straightening out the individual sheets so they could be properly sewed and folded for packaging.

Fieldcrest approached the problem of detection of bias from a new angle. A dye that is colorless in normal light but which fluoresces under ultraviolet light is used for dyeing enough yarn to weave about ½ in. of fabric. Stamp pads impregnated with the dye may also be used to mark an area ½x3 ins. at right angles to the selvage. One method works as well as the other. The marks or the woven-in stripes are spotted at intervals of about 50 yds. in the fabric. These dyed areas are fast to processing and in no way affect bleaching and dyeing.

Fluorescent Dyes Activate Scanning Units

After the goods have been bleached or dyed, they are given a final run through a tenter frame to establish the finished width. This frame is equipped with a scanning head on each rail. Ultraviolet light from a special bulb in each unit is projected toward the cloth through a quartz lens.

As the markers or the stripes pass under the light, they fluoresce; and this visible light activates photoelectric cells contained in the scanning head. If the cloth is straight, the signals cancel out; but if there is a misalignment of more than ¼ in., a motor is energized by relays to speed up or retard one tenter chain through a differential drive.

A number of styles of cloth other than sheeting have been run successfully with this method of bias correction, since weight and construction have no effect on the detection system.

Fieldcrest has eliminated rehandling caused by biased filling, improved quality, and speeded up sewing operations in the fabricating department.

Textile World

Annual Review

OF

New Equipment and Supplies

AND

New Dyes and Chemicals

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New Dyes and Chemicals

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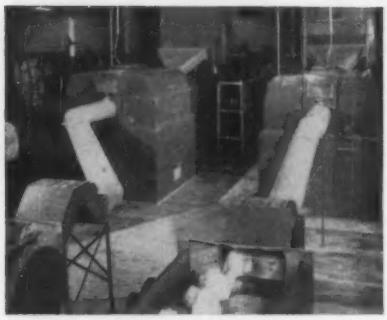
TO REQUEST FURTHER INFORMATION on any item described in this review, please use the Reader-Service card on p. 163. Refer to the number following each description.

Annual Review of EQUIPMENT *and* SUPPLIES

Yarn production



New Opening Equipment

To handle mechanically harvested and dirty cotton, two new cotton cleaners, Axi-Feed and Axi-Flo, were developed by Whitin Machine Works, Whitinsville, Mass.

Axi-Feed is attached to the delivery end of the blending feeder, and no changes are necessary in the placement of the feeders.

Axi-Flo, which is the main opening-and-cleaning unit, operates by a combination of air flow, pin-roll agitators, and grid bars. The machine is called Axi-Flo because the stock is fed parallel to the axis of the rolls instead of perpendicular. (The rolls are 90° to the duct system.) Fan speed for the duct system is 1,000 to 1,200 cu. ft. per min., depending on the production rate. Production is up to 1,200 lbs. per hr. per machine. **(A-1)**

Top Rolls and Saddle

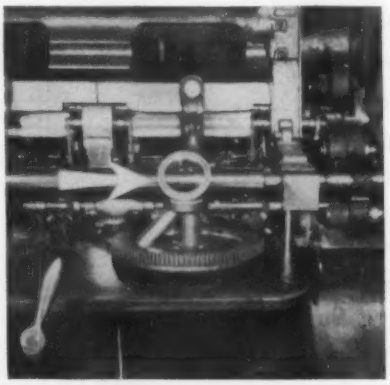
Drafting elements for spinning and roving frames were developed by Product Sales, Inc., Whitman, Mass. Items include: Climax ball-bearing top rolls for running cotton, synthetics, wool and worsted, and blends; Clean-draft nonlubricating back-line top rolls, a nylon roll that is used without oil on the back lines of spinning and roving frames processing cotton, synthetics, worsteds, and blends; and Cleanalign saddle assemblies, a new type of capbarless arrangement used in combination with the front- and back-line top rolls for Casablancas and Roth spinning. **(A-2)**

Opener and Rotary Feed

A new combined opener and rotary feed, available from C. G. Sargent's Sons Corp., Graniteville, Mass., handles heavy grease wool and dyed cotton and synthetics. With no feed rolls to hold the stock while it is being picked, fiber damage is minimized. Rugged construction is a feature.

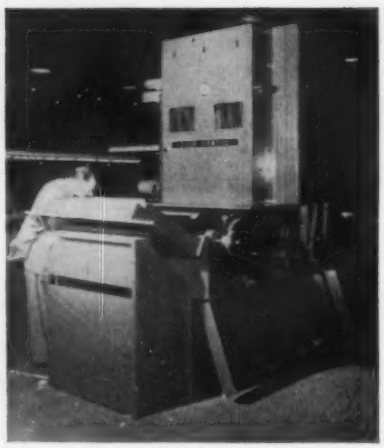
The machine has a main cylinder up to 72 ins. wide with a diameter of 48 ins., and the cylinder is covered with hardwood lags holding hooked pins. The evener has a 24-in. stripping beater; the horizontal feed apron has a variable-speed drive.

A heavy-duty 80-in. opener and 72-in. press-roll machine would have a capacity of 2,000 to 3,000 lbs. of heavy grease wool or 2,000 lbs. of dyed cotton or synthetic fibers per hour. **(A-3)**



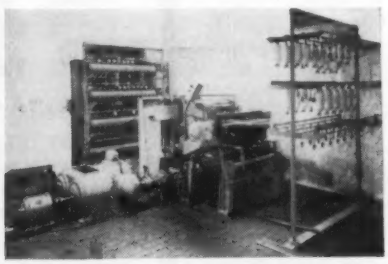
Drawing Frame

A complete new drawing frame was developed by Ideal Industries, Inc., Bessemer City, N. C. Equipped with the Ideal high-speed drafting system that has been supplied as a change-over roll system, the drawing frame also features a new ball-bearing fibre tube-gear mechanism that eliminates static and avoids horseshoeing long fibers. It is recommended for use on cotton and all staple synthetic fibers. **(A-4)**



No. 16 Cotton Opener

To remove lightweight trash in opening, Saco-Lowell Shops, Boston, Mass., now offers the No. 16 opener —a cleaning unit consisting of a condenser that serves as a feed, a blending reserve, and a beater section. **(A-5)**

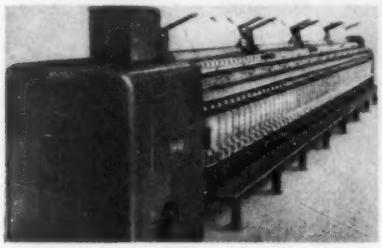


Tek-Ja Process

An improved working model of machinery for the Tek-Ja process of making zero-twist yarn was completed by Proctor & Schwartz, Inc., Philadelphia, Pa., under license from the patent holder, Fibrebond Laboratories, Inc., Watertown, Mass.

In the Tek-Ja process, roving is run through a drawing setup, saturated with an adhesive solution, given a rubbing action, dried, and wound on cheese-type packages. After the yarn is knitted or woven into a fabric, the

fabric is scoured, which removes the adhesive, and the yarn is held together by the intertwinings of yarn in the fabric. (A-6)



Gill-Box Guard

A guard that keeps operators' hands away from the fallers and rolls of gill boxes has been developed by F. H. Bentham Ltd., Bradford, England. For gill boxes with individual drives, the switch is held down by a projecting plate on the guard until the guard is tripped. For belt-drive machines, the belt is automatically transferred to the loose pulley when the guard is raised. (A-7)

Drawing Frame

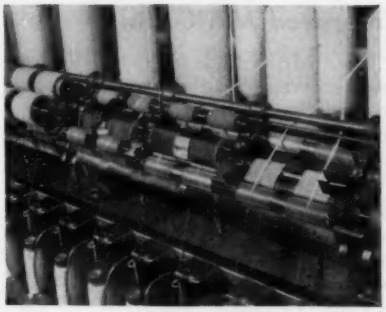
The Even-Draft drawing frame for the cotton system announced by Whitin Machine Works, Whitinsville, Mass., features four-over-five drawing and an electric clutch.

Other features are an extended sliver table with lifting rolls higher and 10 ins. closer to the cams. With this construction, eight ends of combed sliver can be run. The table also has a pan to help support the sliver. Four-over-five drawing handles fibers from $\frac{7}{8}$ to 3 ins. with minimum setting changes. Front-roll speed is 150 ft. per min. The main draft is between the second and third rolls. (A-8)

Teflon-Coated Grates

Draper Corp., Hopedale, Mass., was licensed to produce the Teflon-coated fork grates developed and patented by Deering, Milliken Research Trust, Pendleton, S. C. The grate surface is a special material to which lint, size particles, grease, dirt, and moisture cannot adhere.

Improved quality is achieved by the elimination of thin places in the cloth, which occur when grates become clogged; and increased loom efficiency results from reduction in the frequency of stops required for cleaning. (A-9)

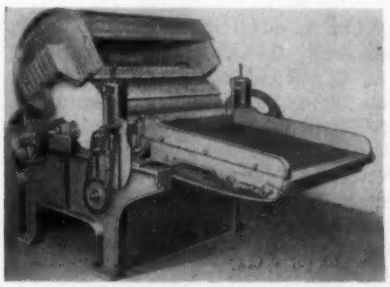


Duo-Roth Change-Over

The draft on Roth spinning frames can be increased over 50% by converting to a new Duo-Roth double-apron system that Saco-Lowell Shops, Boston, Mass., developed. The new drafting unit replaces the middle-top and control rolls. A change-over consists of an adjustable cage with spacers, synthetic top aprons, and a Torrington needle-bearing middle top roll.

With cotton frames already equipped with the Roth system and leather bottom aprons, the Duo-Roth change can be made without breaking down the ends. The Duo-Roth system can be applied to almost any make of spinning frame. (A-10)

►A gear-motor drive for cotton cards was announced by Westinghouse Electric Corp., Pittsburgh 1, Pa. The new unit mounts directly on the card shaft. (A-11)



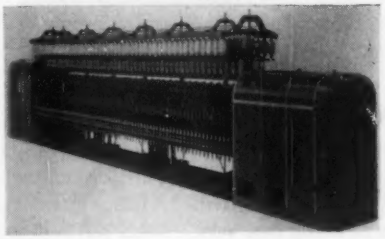
Wet and Dry Picker

A woolen-type picker is available from C. G. Sargent's Sons Corp., Graniteville, Mass. The machine can be used on synthetics before or after drying, and it can be used to open bleached and dyed cotton fibers before drying in absorbent-cotton plants. Used on blends or pure stock, the picker is designed to give easier carding with less fiber loss and fewer neps. It can be used as a finisher picker in a regular line or as a single-process opener. (A-12)

Wool Spinning Frame

The Flex-Spin wool spinning frame announced by Whitin Machine Works, Whitinsville, Mass., has about 20 improvements over the Model E. It will produce yarns from $\frac{8}{16}$ to 9 run and higher. With paper tubes, the traverse is up to 12 ins.; and with wooden bobbins, up to 11 ins.

The frame has adjustable roving guides for changing the number of jack-spool ends. New jack-spool arms with a slotted track allow the jack spool to be lifted out horizontally, and less waste is made because of a change in the angle. (A-13)



Ring Spinning Frame

The new M2 ring spinning machine of Platt Brothers, distributed by Atkinson, Haserick & Co., Boston, Mass., has a stationary ring rail on all models, including the 9-in. traverse frame. A fixed front-roll height is maintained to insure a good spinning angle between the roll nip and thread guide. (A-14)

Bobbin Holder

A bobbin holder whose turning torque varies in proportion to the size of the package was offered by Dixon Corp., Bristol, R. I. Turning friction increases automatically, without the use of a brake, as yarn is stripped from the package. This change of turning friction eliminates overrun and drag.

Instead of ball bearings, this design uses Rulon, an oil-free bearing material developed by Dixon. (A-15)

Cotton Spinning Frame

The Superflex cotton-system spinning frame announced by Whitin Machine Works, Whitinsville, Mass., has all the features of the F-2 and F-3 frames, plus improvements. The new frame has a standard width of 39 ins. Traverse is adjustable from 8 to 11 ins., and up to a 16-oz. package can

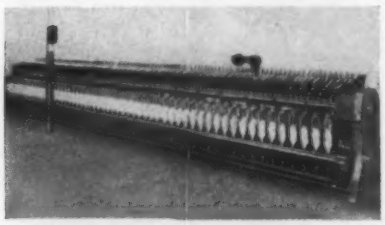
Yarn production

Yarn production

be made. Drafts up to 50 can be successfully run.

A combination builder is standard equipment; it will produce filling, warp, or combination winds. For traverses over 9 ins., filling or combination winds are recommended.

The ring rail is counterbalanced with springs, and over 500 lbs. of dead weight have been eliminated. (A-16)



Worsted Roving Frame

The new American-system roving frame announced by Whitin Machine Works, Whitinsville, Mass., features a new top arm and ratch control and an improved apron system.

The roving frame processes up to 100-grain worsted and 120-grain synthetic sliver. Recommended draft is 8 to 20. The double-apron system has been improved with a recessed knurled middle top-apron roll that allows longer fibers to slip without losing grip on shorter fibers. Fiber lengths from 2½ to 8¾ ins. are handled. (A-17)

Wool Openers

The wool openers made by C. G. Sargent's Sons Corp., Graniteville, Mass., are available in four-cylinder or double-cylinder machines. The four-cylinder opener is recommended for heavier, more-matted fibers. Operation of both models is similar.

A suggested installation of the four-cylinder opener places the opener at the feed end of the scouring train. It would operate from a pit feed and would be installed on a subbase over a drag conveyor for continuous cleaning. A water chute would carry stock directly from the opener to the washer. (A-18)

►A new base for Hartford spindles was developed by Hartford Machine Screw Co., Hartford, Conn. This new base has a split-sleeve design, which is easy to disassemble. Time is saved when bearings need lubrication (normally at five-year intervals), and bearings are easily reached in case of damage. (A-19)

Improved MAK Mule

The MAK mule, Type 640, has been redesigned with an enclosed control unit mounted below the spindles in the middle of the carriage, which is now used only for spinning. Spindles are driven by gearing, and the carriage is driven by roller chains that distribute power over the full length of the carriage. The mule is made by MAK Maschinenbau Kiel A. G., Kiel-Friedricksort, Germany. (A-20)

Perforated-Metal Screens

Perforated-metal screens for pickers are available from Saco-Lowell Shops, Boston, Mass. The surface area of the perforated screen is approximately 70% of the total area; but no increase in fan speed is necessary, and the stock sheets up firm and uniform. (A-21)

Saddle Guide

Low cost and high efficiency are features of the new saddle guide introduced by Dixon Corp., Bristol, R. I. It eliminates oiling and permits piecing up from side to side in the drafting element of any standard spinning frame. The new saddle-roll combination is suitable for drafting change-overs and is available for Roth, Duo-Roth, and Casablancas spinning systems. (A-22)

Wool Spinning Frame

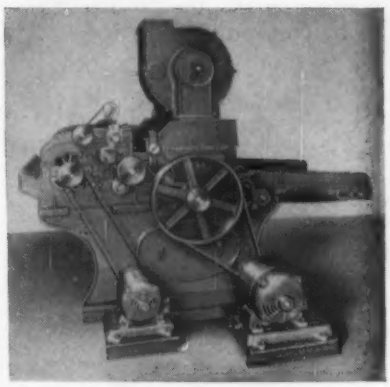
On a new ring spinning frame, made by MAK Maschinenbau Kiel A. G., Kiel-Friedrichsort, Germany, change gears have been eliminated. All controls are housed at one end of the frame, and handwheels with indicators give complete control of spindle speed (1,200 to 5,500 rpm.), twist per meter (80 to 1,200 turns), draft (0 to 60), and direction of twist. Adjustments for bobbin build and traverse length are also controlled from the end panel. (A-23)

Woolen Precarder

The Schofield Precarder for the woolen system is designed to blend and open synthetics, wool, blends of wool and synthetics, and other fibers such as asbestos. Features of the Precarder, which is manufactured by William Schofield Co., Inc., Philadelphia, Pa., are an all-steel frame and a new kind of pinning on the workers and cylinder. (A-24)

Web-Control Device

A stripping attachment that keeps the web on a cotton card always intact with the doffer comb was introduced by Abington Textile Machinery Works, North Abington, Mass. Features of the device are automatic feed control and automatic air shut-off. The device is easily applied to existing Abington strippers. After the card is stripped, the feed, air, and piecing-up operations are automatically completed. (A-25)



Burr Picker

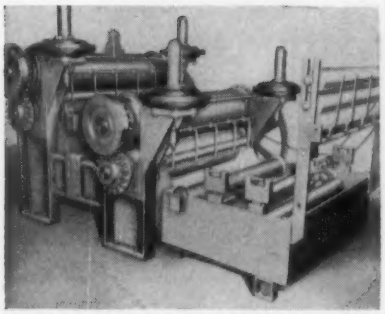
A burr picker that handles 400 lbs. per hr. of medium-grade, low-grade, and seedy wools and card waste was developed by C. G. Sargent's Sons Corp., Graniteville, Mass.

Waste matter from the main cylinder is thrown off through a bottom rack, and dust and dirt are drawn off by an exhaust fan. The open wool is delivered from the main cylinder to a burr cylinder, where waste material is thrown clear on the upper side of the lap. Then a second burr cylinder strips off the wool to expose the opposite side of the lap to a cleaning action. (A-26)

Comber Brush

A stainless-steel brush for use on combers was developed by Saco-Lowell Shops, Boston, Mass., in cooperation with Elmwood Brush Co., Easthampton, Mass. The brush is used to clean and burnish the needles on the half lap. (A-27)

►A pirn- and bobbin-stripping machine that operates with compressed air was introduced by Farnsworth Engineering Co. Ltd., Bolton, Lancs., England. (A-28)



Backwasher and Dryer

A backwasher and backwash dryer for worsted combing plants developed by C. G. Sargent's Sons Corp., Graniteville, Mass., will handle any fiber or blend at speeds up to 700 lbs. per hr. (worsted card sliver)—48 3-oz. ends running 15 ft. per min. at temperatures not above 220° F. A typical installation would include two or three stainless-steel bowls, pneumatic squeeze rolls, and a four-section, single-pass dryer. The backwasher is shown in the accompanying photograph. (A-29)

Saco-Lowell Coiler

A 14x36-in. coiler for cotton cards was offered by Saco-Lowell Shops, Boston, Mass. A reducing motion is built into the foot of the coiler trunk. The turntable is driven by a chain from a sprocket on the upright shaft, and the lay can be changed by replacing the sprocket on the upright shaft. The tube gear has been improved. The coiler is available for new or old cards. (A-30)

Automatic Bagger

An automatic model of the Windle Horizontal Bagger was introduced by W. W. Windle Co., Millbury, Mass. The new machine is portable; no holes are needed in the floor, and it can be fed directly overhead or from the side.

All stock, such as wool, wastes or yarns, can be handled by the bagger. The machine is capable of packing 1,000 lbs. of scoured wool in one man-hour of work. Hopper capacity is 18 cu. ft. (A-31)

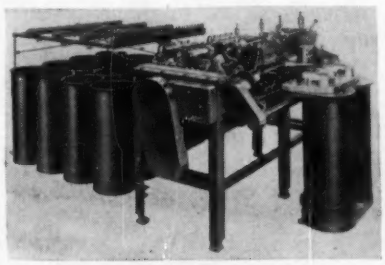
► Multiple jet sprays for applying oils and emulsions to wool stock were developed by Walter E. Hensel, South Berwick, Me. Forty-eight-inch pickers operate with 16 to 38 jets, depending on the volume required. (A-32)

Magnetic Comb

Small horseshoe-shaped magnets, each tested to a 30-lb. lifting load, are made into a magnetic comb for wool-opening machinery by Arthur Earnshaw and Co. Ltd., Kirkburton, Huddersfield, England. The comb removes metallic particles and reduces the risk of fire. (A-33)

Drawing-Frame Coiler

A drawing-frame coiler assembly, the Positube, designed for the processing of synthetic fibers, wool, and blends of the two was developed by Saco-Lowell Shops, Boston, Mass. It has no tube gear to cause static-electricity processing troubles, and it can be applied to conventional drawing frames assembled on a five-roll chassis. (A-34)



Pin Drafter

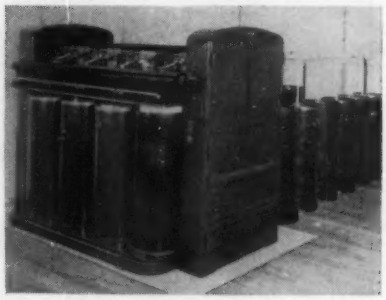
A new high-speed pin drafter for worsted combing and drawing is available from Stellite American Corp., New York, N. Y. It can be used on the French, Bradford, or American system on long- or short-staple animal or synthetic fibers or blends.

Normal working speed is 55 to 66 yds. per min., and up to 98.5 yds. per min. are possible with long-staple fibers. It is possible to deliver a sliver weighing 352 to 395 grains per yard or as low as 28 to 42 grains per yard. Sliver evenness is said to be excellent.

Two heads are standard, with one or two 15x36-in. delivery cans per head—ball delivery if required. The cans can be replaced while the machine is running. (A-35)

Worsted-Drawing System

A short system of worsted drawing was developed by Prince-Smith & Stells Ltd., Keighley, Yorkshire, England. The system is based on the Raper Autoleveller, which feels the weight variation of the sliver inch by inch and neutralizes the variation by continuously varying the draft. (A-36)



Roto-Drafter

A new machine for its American worsted system was developed by Whitin Machine Works, Whitinsville, Mass. The machine can work as a pin drafter or gill reducer, or it can be quickly changed to do the work of a drawing frame. It has four deliveries and takes up approximately the same space as a standard drawing frame.

Wool, synthetics, or blends can be processed in lengths from 2 to 9 ins.

The machine can be quickly converted to a wide-range drawing frame by a mill mechanic in about half an hour. (A-37)

Cotton Cleaner

A cotton cleaner, No. 15, was developed by Saco-Lowell Shops, Boston, Mass., for increasing the cleaning action of its F-7 cleaning and blending feeder. The new cleaner is installed directly in front of the F-7 unit and becomes an integral part of it.

The working element in the new cleaner is a 16-in. Buckley heater with 136 hardened-steel picks. The beater assembly is mounted on antifriction bearings. (A-38)

Hand Brake for Spindles

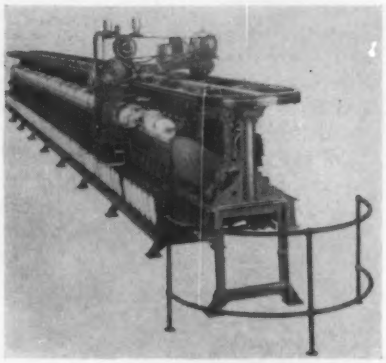
A spindle hand brake applicable to Whitin wool-frame spindles and several types of Whitin twister spindles was introduced by Whitin Machine Works, Whitinsville, Mass. No changes are necessary on the spindle. The brake also acts as a doffer guard and oil cover. (A-39)

► An extra-heavy-duty Climax ball-bearing top roll was announced by Product Sales, Inc., Whitman, Mass. The new roll can be weighted with up to 200 lbs.; and this ability to be heavily weighted makes the roll valuable for frames running blends, especially on American-system worsted spinning and roving frames. (A-40)

CONTINUED ON PAGE 188

Annual Review of EQUIPMENT *and* SUPPLIES

2 Twisting, winding, warping, and slashing 2



Large-Package Spooler

Type D Spooler was developed by Barber-Colman Co., Rockford, Ill., as a result of the tendency to large-package spinning. For mills with spinning frames producing up to a 16-oz. bobbin, the Type D spooler will spool packages weighing up to 6 lbs. (A-41)

Pneumatic Compressor

Pneumatic cylinders have been added to the Model J heavy beamer for wool, heavy cotton, and jute yarn made by Warp Compressing Machine Co., Worcester, Mass., to activate the compression roll against the beam. The pneumatic cylinders insure an even pressure across the full length of the beam and increase the amount of yarn that can be warped on a beam. (A-42)

Cone Holder

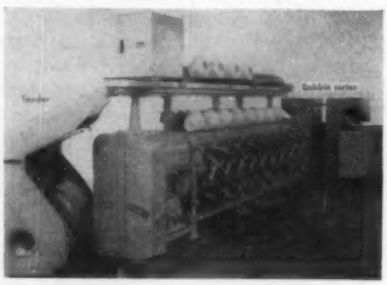
A cone holder made by Edward J. McBride Co., Philadelphia, Pa., reduces change-over time in creeling operations from cone to tube, cone to bobbin, cone to pirn, and back again. No mechanical adjustments or setscrews are required. A spring keeps the cone holder in place; and the holder snaps on and off. (A-43)

Model 10 Twister Improved

A new ring-rail counterbalance was made standard equipment on the Model 10 ring twister by Universal Winding Co., Providence, R. I. The counterbalance is a series of extension springs attached to the lifter bar at one end and the midstand connection at the other. For any one frame, the number of springs used depends on the spindle spacing, ring size, and number of spindles. (A-44)

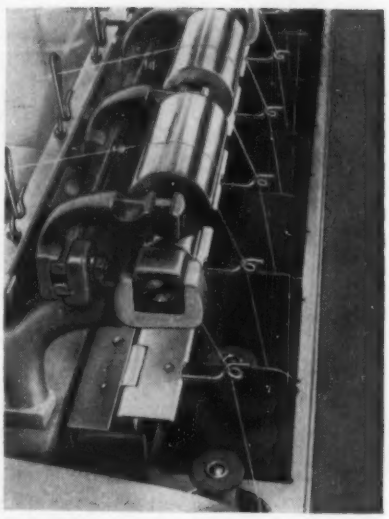
Warper Stop Motion

A warper stop motion, designed to be used with the Kidde Warp Compensator, was developed by Walter Kidde & Co., Inc., Belleville, N. J. If the yarn breaks or if tension changes beyond set limits, the compensator arm makes the stop-motion wire rise, which throws a switch that cuts off the driving power. (A-45)



Cone Winder

A new automatic cone winder, Model 202, was developed by Foster Machine Co., Westfield, Mass. The machine produces standard 6x8½-in. knitting cones. It also winds all types of spun-yarn cones for warping, quilling, doubling, and twisting supply packages. Production of the automatic winder is 100 to 300% greater than the Foster 102 nonautomatic winder. (A-46)



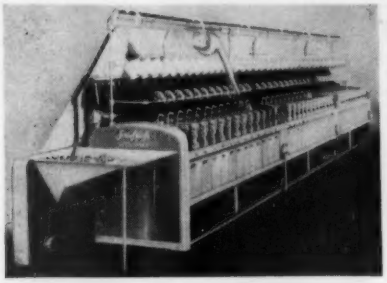
Ring Twister

The Pacemaker ring twister now available from Whitin Machine Works, Whitinsville, Mass., can be supplied with 2¼- to 4½-in. autolubricated rings.

The thread path from the front roll to the thread guide is an almost vertical line; this means more uniform yarn tension, improved quality, and longer thread life. The height from the roller beam to the bottom roll gives plenty of clearance for threading. Top rolls are supported with individual fingers for better alignment with the bottom rolls, and a single or double line of rolls can be furnished. (A-47)

Nonshatter Rewind Caps

Artmor Plastics Corp., Cumberland, Md., offered a newly designed line of redraw caps made to fit 2⅞-in. acetate packages and 4-in. Dacron packages. The new caps are said to compensate for variations in inside diameter of tubes. Other sizes will be available. (A-48)



Automatic Quiller

The Autocopser ASE, an automatic quiller, was developed by W. Schlafhorst & Co., M. Gladbach, Germany. The unit features a grooved yarn-guide traverse that provides a firm, nonparallel, conical wind. The traverse drum runs in a one-sided bearing.

A positively driven threaded spindle with a feeler device controls the advance of the yarn guide. No adjustments are necessary when the kind of yarn or yarn number is changed. The winding heads can be set for bunching. (A-49)

Uptwisters

Two improved uptwisters for processing tire cord and industrial yarns were introduced by Whitin Machine Works, Whitinsville, Mass. The uptwisters are used in the two-stage process of uptwisting tire cord: The double-deck Ply-King plies two ends of low-twist yarn from cones to a 9-lb. package; then the yarn is cabled on the single-deck Cable-King. The Cable-King can also be used for cabling tire cord twisted from beams and doubled on a doubler. (A-50)

Warp-Tying Machines

The new GK-6B and GK-6A models of the Titan warp-tying machine can tie leased or unleased sheets of warp, as well as one leased sheet to another unleased sheet.

The Titan GK-6A, with a lease detector, controls tying of leased warps of any spun yarn; the detector will stop the machine automatically if there are any flats (two ends together) in the lease, whether in the new or the old warp sheet.

The Model GK-6C Titan ties unleased warps only and is designed particularly for the plain-cotton branch of the industry. It retains the Titan feature of double-controlling every end tied.

Edda International Corp., New York, N. Y., represents the Titan Company in America. (A-51)

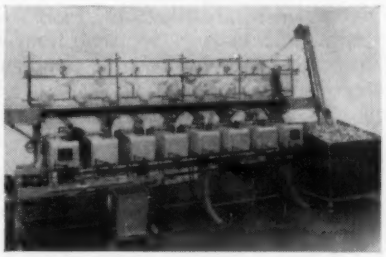
Size Applicator

The Griffin Size Applicator, developed by Ira L. Griffin & Sons, Charlotte, N. C., is said to eliminate: (1) congealing of size; (2) exhaust fans, hoods, and ductwork; and (3) slasher cloth changes and the dilution and breaking down of size. It also keeps floating fibers, which result from set changes and cleaning, from getting into the size pan. (A-52)

Slasher Head

A new automatic slasher head end for use with the Gentle-Air dryer was developed by Bachmann Uxbridge Worsted Corp., Uxbridge, Mass.

A feature of the new unit is its ability to doff a full beam and load an empty one. Both mechanisms are operated hydraulically. One man can complete the full doffing and loading cycle in less than a minute. Another special feature is an automatic self-aligning compressor roll, which can be regulated to any desired pressure. (A-53)



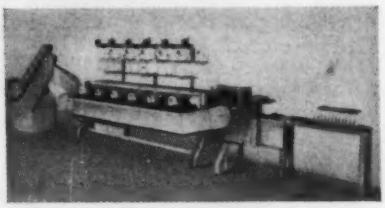
High-Speed Bobbin Winder

The Foster-Muschamp Model 66, a high-speed bobbin winder with an automatic bobbin feed, automatic pinboarding (optional) or box-stacking device, and magazine creeling of supply cones, was developed by Foster Machine Co., Westfield, Mass. One operator can handle 5,000 lbs. of yarn per 8-hr. shift at a cost of about 19 mils per pound of yarn quilled. The machine is designed to wind at 15,000 rpm. (A-54)

Large-Package Twister

Yarn packages up to 9 lbs. are produced on the twister made by Medley Mfg. Co., Columbus, Ga.

An outstanding quality-improving feature of the twister is said to be its exact ring-to-spindle concentricity. The gauge is adjustable from 3 ins. up to any reasonable maximum. Traverse is adjustable from 8 to 12 ins. (A-55)



High-Speed Quiller

The 12,000-rpm. Speed-Matic quiller announced by Whitin Machine Works, Whitinsville, Mass., winds bobbins that are said to have maximum yarn weight, even density, and excellent winding off. Continuous-filament yarn can be quilled with short traverse with no increase in tension. Three features are the layer-locking, nonpatterning action of the traverse, a "prime" wind ratio, and progressive but varying motion of the traverse motion. The quiller winds a tailless bobbin, which is built without the use of a feeler. All wind ratios are achieved at maximum spindle speed, and the bunch control is precise to 30 yds. (A-56)

English Double Twister

A multipurpose twister with a range from heavy-carpet to fine-nylon yarns was announced by Arundel Coulthard & Co. Ltd., Preston, Lancs., England. The spindles are held to the belt by mechanical means. Each spindle is equipped with a foot-controlled starting device, which operates the spindle and the feed unit. A belt with a high friction contact is used, and the belt is tensioned by the counterweighted motor carriage (A-57)

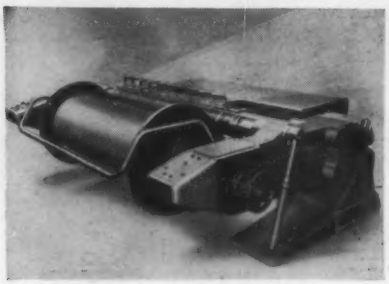
Overwaxing Roll

Offered by Seydel-Woolley & Co., Atlanta, Ga., this device supplies melted wax to dry warps while weaving. Used on Dacron, nylon, and cotton, it is said to increase efficiency. A stainless-steel trough carries the melted wax, which is picked up by a stainless-steel roller. A melting pot feeds the trough through a tube. (A-58)

Rotating-Wheel Cone Truck

Manufactured by D. Haworth & Sons Co. Ltd., Rochdale, England, the truck holds 72 3¾-lb. cones. The wheel is turned to bring the yarn into position for creeling from top to bottom. The cone holders are mounted at an angle. Creeling time is said to be reduced 25%. (A-59)

Twisting, winding, warping, and slashing



Electronic Warper

An electronic warper, Type C, was put on the market by Crowther Ltd., Montreal, P. Q. The warper handles two-ton beams from 54 to 84 ins. in width and up to 36 ins. in diameter with an 8-in. barrel diameter. Constant warping speed: 600 yds. per min. A magnetic brake stops a two-ton beam in 1½ revolutions.

The direction of beam rotation is optional. The beam, pressure roll, and side arms are supported by hydraulic jacks, which can be used to lower the beam to the floor. (A-60)

Twist Setter

New Lydon automatic vacuum-pressure twist setters for synthetics and high-twist yarns are available from Lydon Bros., Inc., Hackensack, N. J. The twist setters are available in four standard vessel sizes, 48x54, 60x54, 72x54, and 90x72 ins., with a carbon- or stainless-steel construction.

Features: yarn is uniformly set; penetration is rapid and thorough; cycles are accurately reproduced; and the complete cycle is fully automatic: vacuum (maximum of 30 ins.), steam injection, steam relief, vacuum withdrawal of moisture, and breaking the vacuum to end the cycle. (A-61)

Modified Converter

Attachments allowing the Pacific converter to process Orlon yarns for the knitting trade by Du Pont's new heat-stretch method were brought out by Warner & Swasey Co., Cleveland, Ohio.

The attachments can be installed on machines in a few hours. New converters are equipped with the two sets of infeed rollers, which are spaced to take heater elements.

The heater elements will be optional equipment. Heaters are in operation except when the machine is shut down. Overheating of the stock is prevented by an automatic control.

Normal productivity of the converter, 100 to 130 lbs. per hr., is maintained. (A-62)

Two-Creel Warping

The beamer made by Thomas Holt Ltd., Rochdale, Lancs., England, can now be supplied with a built-in traversing device to allow two or more creels to be used side by side. While one creel is being filled, the other is in use.

Where space is restricted, the creels can be arranged with their stands and combs in tandem, with the beam warper mounted on a turntable between the two creels. (A-63)

Ceramic Tension Fingers

New tension fingers for Sipp-Eastwood and U. S. Textile winders are made of Heanium and are attached to the metal unit that is installed on the frame. The fingers, made by Heany Industrial Ceramic Corp., New Haven, Conn., have a hardness of 9.5 on Moh's scale. (A-64)

Sectional Warper

A sectional warping machine with a fixed cone that is said to guarantee the uniform length of all threads was developed by Tessiltecnica, Florence, Italy. The cone is adjusted from a speed gear with 156 possible combinations. (A-65)

Conditioning Machine

A yarn-setting and processing machine that provides quick and thorough penetration of nylon-yarn packages through alternating cycles of steam pressure and vacuum was announced by Turbo Machine Co., Lansdale, Pa.

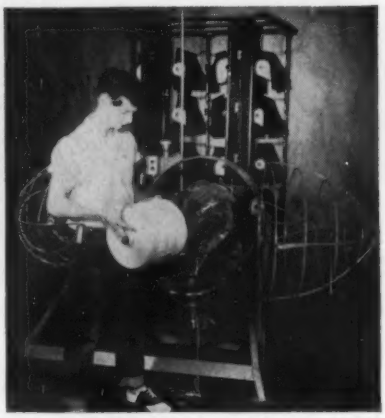
A small production model that handles 90 lbs. of yarn per load and a large production model capable of processing up to 300 lbs. of yarn at one time on the bobbin-loaded carriers are available. (A-66)

Dayco Slasher Roll

A new slasher roll for faster and more-uniform sizing of warp yarn was announced by Dayton Rubber Co., Dayton, Ohio.

Warp yarn is effectively impregnated with the starch sizing solution without damaging or marking the fibers.

The rolls require no covering; are not affected by the sizing solution, oils, or chemicals; and can be resurfaced to last for two or three times the normal period. (A-67)



Whirlwind Twister-Winder

The Whirlwind two-for-one ply twister and winder, developed by Deering, Milliken Research Trust and manufactured by Warner & Swasey Co., Cleveland, Ohio, is used for tire cord to ply spun yarns. The machine delivers a 20- to 30-lb. knotless package with a transfer tail. (A-68)

Heavy-Duty Beamer

A heavy-duty beamer, Model H-3, was announced by Allen Warper Co., Lowell, Mass. It accommodates one, two, or more loom beams at the same time, with traverse widths up to 21 ft. between heads or greater, and heads up to 44 ins. diameter or greater if required. It is furnished in three classified units: 10, 15 and 25 hp.

Full start-stop control rod or push buttons are furnished. Standard equipment includes a yardage counter, tension rolls, and heavy-duty Allen positive-expansion comb. (A-69)

►A warping creel for rayon, nylon, and crepe yarns is available from N. V. Machine-fabric L. te Strake, Deurne, Holland. It is available as a jack or magazine creel. Coupled sections are on casters so they can be regrouped or shifted to other warpers. (A-70)

Heavy-Duty Uptwister

Structural modifications to the heavy-duty uptwister made by S. and E. Scragg Ltd., Macclesfield, England, designed to spin 3½-lb. packages at speeds up to 15,000 rpm., have given the frame greater rigidity. The traverse rails are positively aligned. (A-71)

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Annual Review of EQUIPMENT *and* SUPPLIES

3 Weaving 3

C&K Introduced 7 Looms

Seven new looms were developed by Crompton & Knowles Loom Works, Worcester, Mass. Two looms are specialized and the other five are multipurpose looms with the same basic features.

• The first loom in the multipurpose group is an 82-in. filling-mixing loom with a positive-geared 2x1 box motion.

The conventional single-color rotary magazine is equipped with a scissors thread cutter designed to cut and hold the filling. Two over-and-under electromechanical feelers are used on the drop-box end of the loom.

One feature of this loom is that it is designed so that it can be converted from a 2x1 to a single-shuttle loom. When the change is made, a loop picker and parallel shoe are used to replace the drop-box picker and rocker iron. (A-73)

• The second multipurpose loom is a 48-in. geared 2x1 box-motion loom.

The loom has a two-color rotary magazine and is equipped with a color-indicating mechanism to indicate the box-motion and magazine control.

The bobbin disk is stenciled Nos. 1 and 2 alternately so that the filling in the magazine can be replenished without mixing it. A two-prong electric feeler is located under the magazine to indicate filling changes. (A-74)

• Multipurpose Loom No. 3 is a 60-in. geared 4x1 box-motion loom.

A four-color rotary magazine having numbers 1 through 4 stenciled on the bobbin disk is used to transfer all filling automatically. A two-prong electric feeler is used. (A-75)

• Loom No. 4 is also a multipurpose 4x1 loom. The 78-in. loom has a four-color rotary magazine. This loom has a box-motion chain to indicate box-motion changes and color-motion changes for the magazine. (A-76)

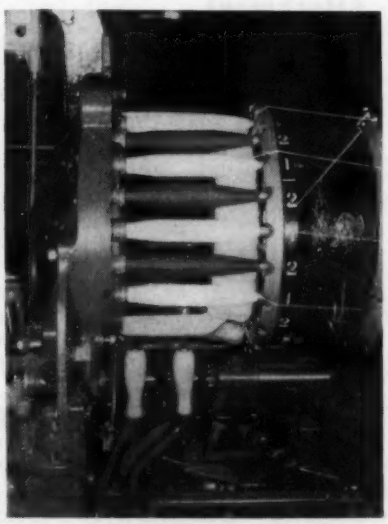
• The fifth loom in the series is a 72-in. loom with a two-color rotary magazine. This loom is also convertible to a single-shuttle loom. (A-77)

• Another C&K loom that is not one of the multipurpose series is the new W-3A Select-A-Pic 82-in. loom.

This loom will weave automatically many pick-and-pick styles formerly woven with the filling hand-changed.

The Select-A-Pic loom is a 4x2 loom. Four shuttle-box cells are on the head end of the loom and two are on the drive end. It is equipped with sliding picking motions so that the shuttles can be picked from either end of the loom.

An electromechanical filling feeler is controlled by a switching arrangement in the head motion so that it indicates only during a transfer sequence. Color-control indication for the cells of the four-color stationary magazine also comes from the head motion.



TWO-COLOR ROTARY MAGAZINE is used on the 48-in. and 72-in. multipurpose looms running two colors of filling.

The loom is equipped with a 25-harness 4/10-in. space Knowles head motion. The loom drive is the standard W-3 drive.

The let-off is the full-automatic let-off in the high position and takes a 30-in.-dia. beam head. (A-78)

• The seventh loom is a narrow-fabric loom. It has a 44-space double-deck batten and uses straight shuttles on 5-in. centers. The lay is constructed of magnesium for light weight and higher speeds.

This loom has an eight-harness end cam and a 20-harness dobby. A friction let-off is used.

A silent single-belt drive is used. A push-button jog-start-stop control is located at the front of the loom for ease of operation by the weaver. (A-79)

Draper Made 6 New Looms

Six looms with major changes were developed by Draper Corp., Hopedale, Mass. (A-80)

• The first loom is a 46-in. E-model archless loom equipped with a ¾-hp. Draper-Diehl power transmitter, spring crank arms, a new protector-motion frog construction that uses spring-packed frogs, a metallized take-up roll, picking shafts with finished journals, and 8-in. bobbins.

The conventional arch of the loom has been eliminated by placing a roll-and-shaft harness motion under the loom just over the ends of the treadles. Main shafts are pressure lubricated. (A-81)

• The second loom is a 90-in. XL loom with the No. 1 automatic compound let-off and a new adjustable drag-roll bracket assembly to reduce heat-back on heavy weaves. (A-82)

• Loom No. 3 in the group is a 72-in. XP loom equipped with a Draper-

Diehl power transmitter and a one-shot lubrication system for greasing harness cams, auxiliary shaft bearings, idle-gear studs, and camshaft and crankshaft center boxes.

The feature of this loom is that it can be adjusted to a wide range of picks per inch of cloth. A compound-driven No. 4 Bartlett automatic let-off and a compound-driven nutting high-roll ratchet take-up make the wide range of picks possible (A-83)

• The fourth loom is another loom without arches, a 46-in. X-2 loom.

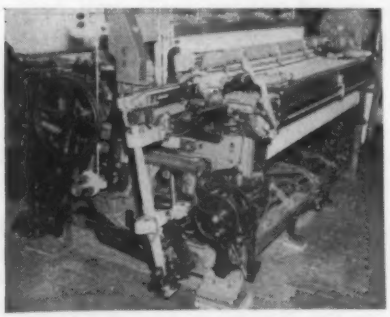
A clock-spring top is mounted on short brackets attached to the loom-sides. A new pick cam and toe are made in one piece, and a removable yoke is included in the cam opposite the toe position to place the combination part on the camshaft. Other features include picking shafts and picking balls with antifriction bearings, a new thread cutter with fewer parts than the Stafford thread cutter, a temple with a new thread-cutter that cuts the filling ends closer to the cloth selvage, and an electric warp stop motion adjustable by the same methods used to adjust mechanical stop motions. (A-84)

• The fifth loom is an X-2 loom, featuring antifriction bearings on the crankshaft, front crank arms, camshaft, rocker shaft, loom beams, throughout the whiproll parts, auxiliary-shaft bearings, idle gears, take-up-roll bearings, protector rod, picking balls, let-off, take-up, harness sheaves, and harness-roll studs.

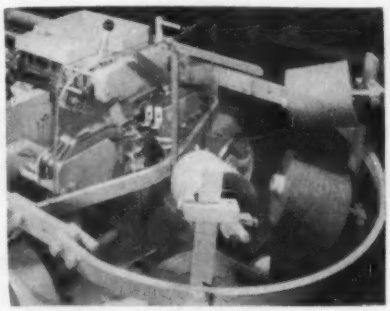
A take-up enclosed in an oil bath to eliminate the conventional wind-up parts and the gear train is used. The take-up roll and cloth roll are metallized. (A-85)

• Loom No. 6 is a 50-in. XD-model filling-mixing loom with a cam-driven box motion for 2x1 shuttle-box weaving. It is provided with a center-fork stop motion, 1-hp. Draper- Diehl power transmitter, and a 20-harness dobby. Antifriction bearings are placed on the rocker shaft, all whip-roll parts, and loom beam. A new underslung temple with close-cutting thread cutter is used.

The outstanding feature of this loom is the new pivoting-binder construction. Eccentric bushings similar to those used in the binder of the battery end of regular XD looms are used in the binders on the drop-box end of the loom. (A-86)



A WIDE RANGE of picks per inch is possible on this XP loom with compound geared let-off and take-up. Full-to-empty loom-beam running is possible without adjustments.



Filling-Mixing Unit

A filling-mixing unit for its Sulzer weaving machine was brought out by Warner & Swasey Co., Cleveland, Ohio. The unit blends alternate single strands of yarn at approximately 240 ppm. It is available on new machines and can be added to all machines already in operation.

Single-strand blending eliminates filling bars, and it provides broader possibilities in two-color blending. (A-87)

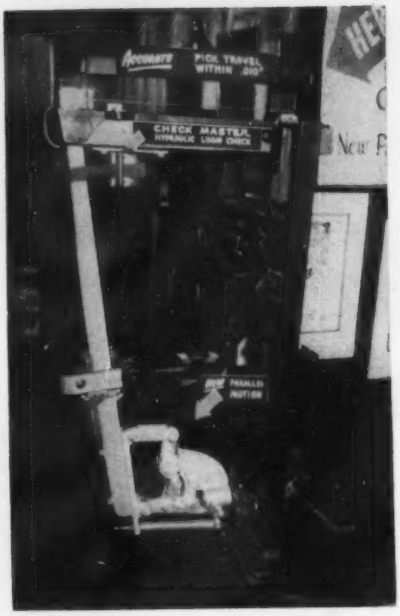
Bobbin-Changing Attachment

Automatic bobbin-changing attachments for converting nonautomatic to automatic looms were introduced by Auerbach & Co., Oldenburg, Germany. The attachments can also be supplied on new automatic looms. (A-88)

Loom Let-Off

A new loom let-off, the Hydro-Tensor, was developed by Twin Disc Clutch Co., Racine, Wis. The let-off can be simply and economically applied to all popular-model looms.

The let-off drive combines fluid-coupling principles with V-belt arrangements and chain drives. Cams, gears, and other positive-drive mechanisms are eliminated. The fluid-coupling operation maintains uniform warp tension from full to empty beams. (A-89)



Parallel and Checking Motions

Two loom motions designed to be used together, a parallel motion and a hydraulic checking motion, were developed by W. D. Dodenhoff Co., Inc., Greenville, S. C.

The parallel motion is claimed to hold the picker within 0.010 in. of a straight line for 10 ins. of picker-stick travel. Other features: (1) easy adjustment; (2) picker sticks and endless checkstraps, if used, can be changed without readjusting the motion; (3) shuttle marks are eliminated; and (4) fewer warp ends are down.

The hydraulic checking motion was designed to relieve shuttle boxes and binders of most of the checking of shuttles. The checking apparatus is a small cylinder.

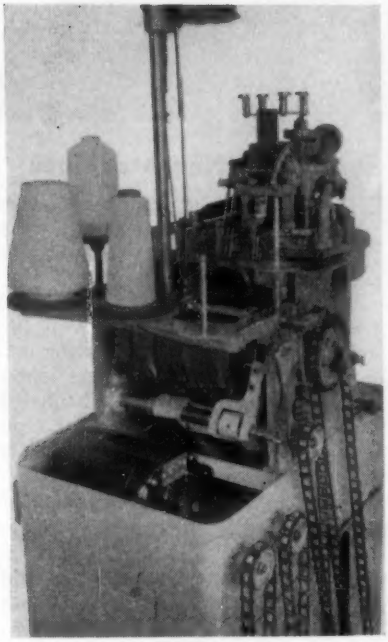
Features: (1) the only adjustment necessary is to set the length of a small strap at the picker stick, (2) loom speed can be increased 10 to 20 ppm., depending on the cloth woven, and (3) box heating is stopped. (A-90)

Tufting-Machine Attachment

Cobble Bros. Machinery Co., Chattanooga 8, Tenn., introduced an automatic pattern attachment for use with a short-loop tufting machine, which will produce patterns in high or low nap, in geometric or random designs. Design is controlled by a series of variable-speed feed rolls that feed the yarn as called for by the pattern chain. (A-72)

CONTINUED ON PAGE 192

4 Knitting 4



Circular-Hosiery Machine

The electronically controlled, automatic circular-hosiery machine introduced by Fidelity Machine Co., Inc., Philadelphia, Pa., is designed for women's 400-needle seamfree hosiery. The machine is completely equipped with electric stop motions for heel and toe yarns and stop-motion protection in case of needle breakage. A simplified yarn-tension device is mounted directly above the dial.

The switch-cam bracket and cam-ring section are complete unit assemblies; and a size-marking unit, which operates from the pattern chain, is attached. All present needles and sinkers in use are interchangeable with the Fidelity 400.

A positive-grip timing belt drives the cam drum, which has an 8-in. dia., and all speeds are precisely controlled from the master drum. The control box slides out of the machine cabinet for inspection. The pattern chain is at the side of the machine. **(A-91)**

75-Gauge Hosiery Machine

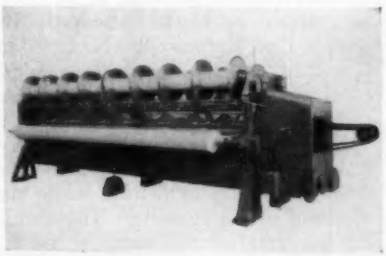
A 32-section, 75-gauge full-fashioned knitting machine was introduced by Karl Lieberknecht, Inc., Reading, Pa. The new machine, which can turn out 10- and 12-den. hosiery, is built with the automatic features found in Lieberknecht machines of other gauges. **(A-92)**

Hosiery Tension Device

An automatic tension device made by Scott & Williams, Inc., New York, N. Y., supplies tension to seamless hosiery during knitting. The device is particularly suitable for 474-needle machines and 12-den. yarns.

The welt is automatically blown down into a holder that applies tension to the fabric on the needles. High machine legs are supplied so that tension can be controlled throughout the stocking to the toe.

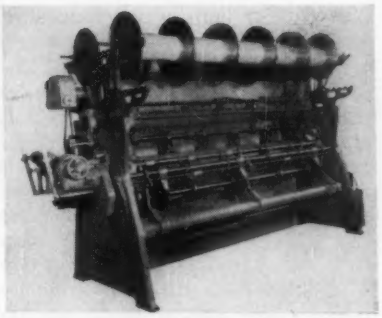
When the toe has been knitted, the stocking falls from the needles and is blown through a plastic pipe to a container on the front of the machine. **(A-93)**



Three-Bar Tricot Machine

A Mayer three-bar tricot machine runs at 520 courses per minute. Alfred Hofmann & Co., West New York, N. J., represents the Mayer concern.

The machine can be converted to a two-bar machine without cam changes. Speeds of 700 courses per minute are claimed for the machine in knitting two-bar fabrics. Patterns can be made with chain links. **(A-94)**



Raschel Machine

The Model UR-11 raschel machine, built by Robert Reiner, Inc., Weehawken, N. J., can knit up to 550 courses per minute with two guide bars.

The machine is suitable for double-needle-bar work and is fitted with up to eight guide bars, crepe attachment, stitch comb, fall plate, chain links, and automat. The second needle bar can be provided with plush points, and there is a beam-feeding device for rubber fabric. A working width of 112 ins. is offered, with up to 28 needles per inch.

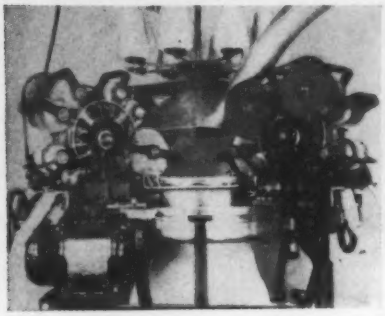
The unit can be moved to two positions for one- or two-needle-bar fabrics. The machine is equipped with 2¾- or 4½-in.-dia. beams for use with 14-in. beams, seven 15-in., or five 21-in. beams. **(A-95)**

Flat Knitter

An automatic flat knitting machine for making collars, cuffs, and trim for full-fashioned and regular sweaters was introduced by Queens Machine Co., Brooklyn, N. Y. The machine can also produce a full garment section with knit-on cuffs or tails. It can make a scalloped collar followed by block designs and a regular cuff stitch. Four bars allow various colors to be included in the design. The number of tuck courses is limited only by the capacity of the needle hook. **(A-96)**

For more information, circle the A-number on Reader-Service post card.

Knitting

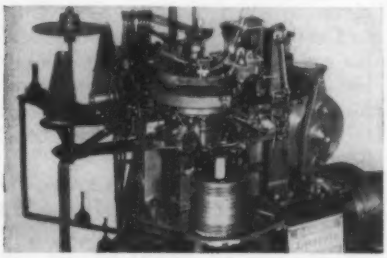


Pile Knitting Machine

A circular knitting machine developed by Wildman Mfg. Co., Norristown, Pa., has a carding unit at each of its four feeds. The unit, consisting of a cylinder with two workers, two strippers, a lickerin, and a doffer, feeds card web to the needles to be formed into a pile.

The units, driven from the gear ring, supply fibers to the needles when the needles are in their high position. The doffer takes the fibers from the cylinder and sweeps them up into the needle hooks.

Each tuft of pile is securely locked in place as the needles are drawn down and a yarn fed to the hooks to form a jersey stitch. A central vacuum system removes the small loose fibers and deposits them in a box to be reclaimed. (A-97)

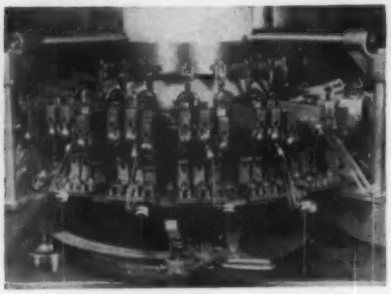


Hosiery Intarsia Machine

A new machine to produce solid-color patterns with sharp outlines on socks, which were only possible before on hand-operated machines, was introduced by Hemphill Co., Pawtucket, R. I. The knitting machine is known as the Vari-Inlaid-Pattern Intarsia machine. (A-98)

F.-F. Sweater Machine

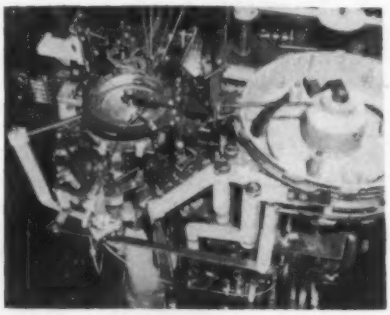
A full-fashioned sweater machine was developed by Robert Reiner, Inc., Weehawken, N. J. The machine features adjustable high speed, a V-neck attachment, fashioning, and four-head units. (A-99)



Feed Units

An adapter ring and feed for double-head spring-needle knitting machines was developed by Precision Knitting Machine Div., Central City Machine & Tool Co., Syracuse, N. Y. The first conversion units in production are for jersey fabrics.

The feed is composed of a clearing wheel, stitch wheel, and presser. On a 2-in. cylinder, up to 18 of the new feeds can be attached. The company claims to be able to double the present number of feeds on a spring-needle table. (A-100)

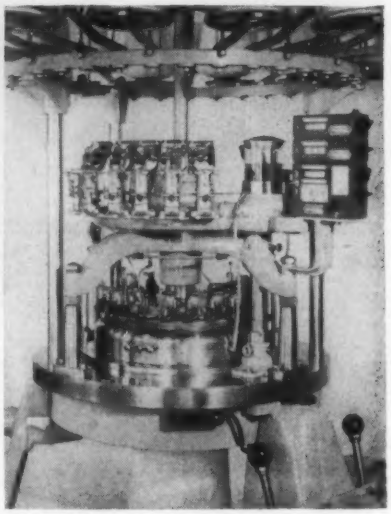


Argyle Knitter

A machine for knitting argyle socks was offered by H. E. Crawford Mill Supply Co., Kernersville, N. C. The Crawford machine produces a solid-color argyle sock with a clear-cut suture between the colors.

The four-position clutch is a new feature on the machine to allow the cylinder to stop oscillating while the machine is still running. The clutch on the end of the main shaft has four notches cut in it. A cam on the horizontal pattern drum selects a clutch position for the start of a new diamond.

The picks are controlled by selector levers. The levers drop the picks into action as required by the control drum, and many designs other than argyles can be made by changing the pick-operating cams. These designs include panel diamonds, diamonds in diamonds, and block patterns. (A-101)



Eyelet Knitting Machines

Two latch-needle machines to make plain and figured-eyelet fabrics were introduced by Mellor Bromley & Co., Ltd., Leicester, England.

The knitting is done by dial needles, and every third slot in the cylinder has a pair of jacks for collecting and transferring sinker loops. The dial is gear driven. Estimated output when two ends of 35s cotton yarn are fed is about 4 lbs. per feeder per 8-hr. shift. (A-102)

Full-Fashioned Machine

A full-fashioned underwear and outerwear knitting machine was brought out by William Cotton Ltd., Leicester, England. The knitting machine is said to run at 65 courses per minute. (A-103)

Double-Cone Attachments

Spring-equipped double-cone attachments for circular knitting machines with a rotating yarn rack were developed by Roto-Ties Co., Allentown, Pa. Advantages of the patented units are said to be: (1) more production at less cost, (2) costs of smashes saved, (3) fewer press-offs from cones running out, (4) quality improved, (5) reloading stoppage reduced, and (6) waste yarn reduced. (A-104)

Braided Rug Machine

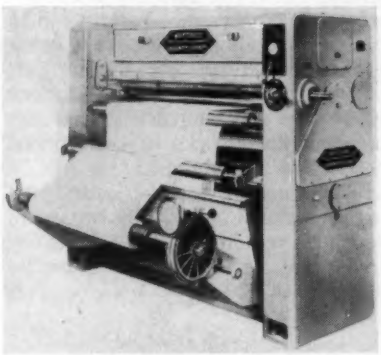
A Sinfra single-head knitting machine was developed by Fidelity Machine Co., Inc., Philadelphia, Pa., to make braids for braided rugs by knitting a cover over a filler core. (A-105)

CONTINUED ON PAGE 194

Bleaching, dyeing, and finishing

Annual Review of EQUIPMENT *and* SUPPLIES

5 Bleaching, dyeing, and finishing 5



Pneumatic Mangle

The Niptrol pneumatic mangle, developed by Rodney Hunt Machine Co., Orange, Mass., is designed for use with all types of fabrics.

The pneumatic load system consists of an inflatable air tube, confined in a channel and pressing against a steel plate that bears against the brackets on the pressure rolls.

On extraction, it is possible to get the same degree of extraction running 3-oz. and 10-oz. fabrics side by side through the Niptrol. Extraction figures run to 46% for cotton muslin, 57% for drapery fabrics or spun rayon, and 63% for wool plush. (A-106)

Loop Dryers

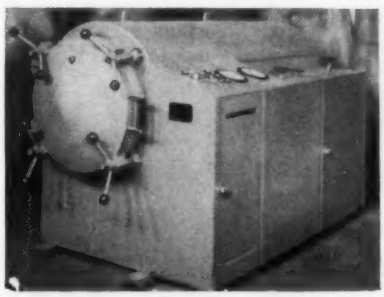
In the loop dryers offered by Friedrich Haas GmbH., Remscheid, Germany, cloth is supported on revolving rollers while being dried; and the loops are very short. There are four tiers of conveyor rolls, and a patented mechanism insures uniform loops and no tension. The cloth speed-conveyor speed ratio is controlled by a PIV drive.

Applications include most types of cotton and rayon fabrics such as crepes, pile fabrics, shirtings, and tubular knit goods. The machine can be adapted to continuous dyeing and finishing ranges. (A-107)

40-Ton Calender

A new embossing, schreiner, and friction calender with a loading capacity of 40 tons was announced by McKiernan-Terry Corp., Harrison, N. J. One set of gears, running on correct pitch lines, is provided for the entire range of rolls to insure high-quality work at a low operating cost.

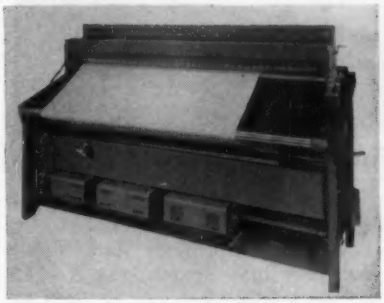
For embossing services, a new design for tipping and inlay applications has been developed. Emphasis is placed on accuracy, simplicity, and ease of adjustments. (A-108)



Steam Setter

A steam setting machine that handles yarns as well as knitted and woven fabrics made of wool, cotton, rayon, or the newer synthetics is available from Robert Reiner, Inc., Weehawken, N. J. The steam setter is a vacuum-pressure machine with adjustable steam pressure of 0.1 to 4 atmospheres and corresponding steam temperatures from 112 to 284° F. (A-109)

► Color tubs in a range of stock sizes for the textile industry are being molded from glass fiber by Beetle Boat Co., New Bedford, Mass. The tubs are light in weight, easily washed out, and noncorrosive and withstand temperatures above the boiling point. (A-110)



Cloth-Inspection Machine

The automatic fabric inspector developed by Lindly Instrument & Machine Corp., Mineola, N. Y., detects fabric defects and defines the defect area for visual grading. Instead of scanning the material for defects, the operator watches lights; and wherever a light goes on, the defect is immediately in front of it. The machine can be stopped automatically while the light is on.

An automatic marking unit, which is desirable for woolens, worsteds, and quality material, can be furnished; a chalk mark is placed over the defect.

Optional equipment: a recording unit, which records the number of defects, the yard it appears in, and the size.

As a seam jumper in calendering, speed is up to 150 yds. a min.; for the lighting operations, speed is about 60 yds. per min. (A-111)

High-Speed Napper

A napping machine developed by David Gessner Co., Worcester, Mass., is said to produce up to 200% more on certain fabrics than its older napper. Maximum napping energy can be applied from both series of rolls. The number of runs is reduced; for even at high torques, the worker rolls stay in the proper napping-speed range. (A-112)

units. (A-99)

diamonds, and block patterns. (A-101)

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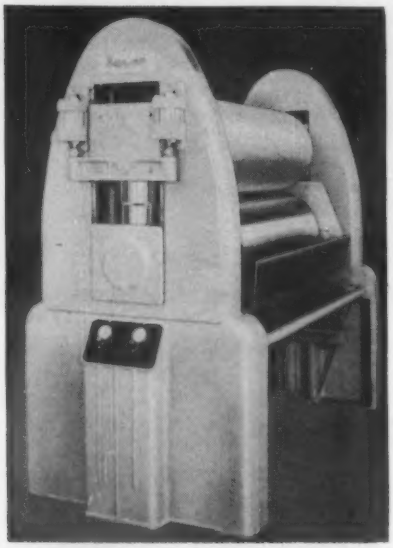


Four-in-One Finishing

Two models of a machine for textile finishing were announced by H. W. Butterworth & Sons, Bethayres, Pa. Both models, the Rocket and the Auto-Rocket, can be used as a two- or three-roll padder, two- or three-roll mangle, two-roll embossing calender, or a two- or three-roll rolling calender.

The standard Rocket, which provides independent pressure control for each side of the machine, is used where there are frequent applications for different pressures per side. The Auto-Rocket is equipped with a pressure equalizer that automatically maintains absolute uniformity of pressure across the face of the rolls.

Roll pressures range from 0 to 30 tons. Controls are built into the unit. The driven roll at the bottom is stainless steel; top roll is rubber. Standard roll widths are 50, 60, 66, and 72 ins. Other widths are furnished as required. (A-113)

Open-Width Tube Roller

Features of the Model JF open-width tube-rolling and measuring machine made by J. E. Windle Machine Works, North Grafton, Mass., include easy threading, a short cloth run, and a large cloth-loading platform. The speed of the rolling head is normally 138 yds. per min., driven by a ¼- to ¾-hp. motor at 1,750 rpm. The paper-tube arbor is mounted on ball bearings.

Cylinder circumference: 1 yd.; roll diameters: 28 ins.; cloth width: 64 ins. (standard) up to 86 ins. (special). Floor space required is 7x6 ft. (A-114)

Conditioning Machine

The Temperdaire cooling and conditioning machine for processing resin-treated fabrics of cotton and the newer fibers was announced by James Hunter Machine Co., North Adams, Mass.

The Temperdaire fixes the cloth at the most desirable point, cools it to normal temperature, and conditions the fabric.

Water-cooled air is blown on the cloth through nozzles. This moist cold air reduces the cloth temperature to a predetermined point (A-115)

Pleating Machine

A permanent pleating machine was developed for the production of wash-proof pleats on knitted and woven materials made of nylon, Terylene, Orlon, and other thermoplastic fibers. It also makes nonset pleats on wool, cotton, silk, rayon, acetate, linen, and other fabrics. The Rado 54, made by Karl Rabofsky GmbH., is handled in the U. S. by Robert Reiner, Inc., Weehawken, N. J. (A-116)

▶The Jet mixer was made available by Hermas Machine Co., Hawthorne, N. J. The mixer was developed for wetting out and deflocculating dyes and pigment dispersions in liquid carrying agents in viscosities from water-thin to 30,000 cps. The mixers are made in laboratory, pilot-plant, and production sizes. (A-117)

High-Speed Napper

A napping machine was developed by Franz Muller Machinenfabric, M. Gladbach, Germany, and is available from Textile Machinery Import Co., New Rochelle, N. Y. A 36-roll machine operates at up to 40 yds. per min.; 24- and 30-roll machines are also available.

Cloth tension is controlled by a handwheel, and an electromagnetic brake stops the machine when the napper is cut off. (A-118)

Fabric-Beating Machine

A beating machine for high-pile and high-napped fabrics was introduced by Mawaco Machine Co., Inc., Brooklyn, N. Y. It operates at a speed of 2½ to 7 yds. per min., and the intensity can be varied from 2.04 to 0.51 beats per inch. (A-119)

Flock-Printing Machine

A machine for flock printing was developed by Fritz Hofer, Olten, Switzerland. The features are the small size of the machine and its simple operation.

The cloth is unwound from a cloth roll and placed underneath a single screen, where the adhesive is applied according to the screen pattern (up to 24 ins.). While the adhesive is being applied to the next strip, the first pattern strip passes under the Rotoflock electrostatic flocking device, and the prepared flock sticks to the printed portions of the fabric.

The standard machine is designed to take material up to 53 ins. wide; the floor area required is 8 ft., 3 ins. by 18 ft., 1 in. Larger machines can be supplied. (A-120)

Backsizing Machine

A machine for gumming, drying, slitting, and rolling up tubular knit goods was developed by Joseph Pernick Co., Inc., Maspeth, L. I., N. Y. The machine performs this work in one operation at up to 20 yds. per min.

It has a pin-tenter attachment to keep the cloth from twisting or turning; so the cloth is slitted in the center of the gumming line. (A-121)

▶The single-stage homogenizing valve developed by Manton-Gaulin Mfg. Co., Inc., Everett, Mass., was designed specifically for the textile industry.

The elimination of the pilot prevents pilot breakage or plugging from contamination by foreign matter. With most size formulas, approximately 25% less homogenizing pressure, with a corresponding reduction in horsepower, is required with the two-stage assembly valves. (A-122)

▶A pressure autoclave for steam-setting Helanca yarn was developed by Gaston County Dyeing Machine Co., Stanley, N. C. The controlled vacuum-pressure system completes a cycle in 30 mins. or less, depending on the seam injection required. (A-123)

Redesigned Napper

A redesigned 24-roll napping machine for use in woolen-fabric mills was introduced by Davis & Furber Machine Co., North Andover, Mass. The napper handles wool, wool-and-cotton, and wool-and-synthetic-fiber blankets.

Called the Simplex napper, Model L-3, it has sensitive dial controls and no change gears; so a predetermined finish can be automatically controlled on subsequent runs. (A-124)

High-Speed Slitter

The slitter and rewinder made by John Dusenbury Co., Inc., Verona, N. J., can be adapted to a score cut to handle woven fabrics. One specific application is for slitting impregnated glass cloth. Production; up to 500 ft. per min. Frame widths: 12 to 52 ins. Rewind diameters: 8 to 24 ins. (A-125)

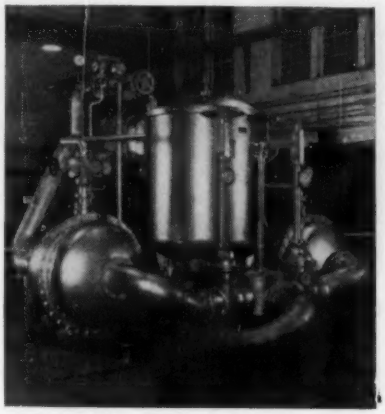
Dryer and Heat Setter

The drying and heat-setting frame for nylon and other synthetic fabrics built by H. Krantz Soehne is available from Alfred Hofmann Needle Works, Inc., Union City, N. J. The single-layer tenter features an entrance field, an intermediate field, one drying bay, two heat-setting bays, and a cooling zone. Working widths: 2 ft. to 12 ft., 6 ins. Drying capacity (for up to 3.5-oz. knitted goods) is 594 lbs. of water evaporated per hour for 59-in. fabrics and 1,254 lbs. evaporated for 149.5-in. fabrics.

Heat-setting time: with 1-min. exposure, 19.8 ft. per min.; 20-sec. exposure, 59.4 ft. per min. The chain can be equipped with pin plates or clips, and a metal pin plate can be adapted to make a combination unit. (A-126)

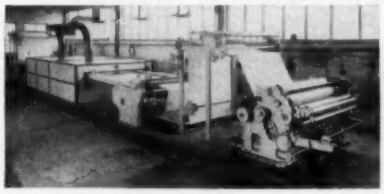
Decating Machine

The steam-finishing machine developed by Finishtex Appreturmaschinen, Stuttgart, Germany, handles jersey (open or tubular) and interlock goods, fabrics made of synthetics, and fine woolens. Cylinder widths are approximately 71, 79, 87, and 92 ins., with maximum cloth width approximately 8 ins. less than cylinder width. Features are the low pressure of steam used, constant tension, and automatic control. The process can be varied to give from a dull surface to a high luster. (A-127)



Closed-System Dryer

A rapid package dryer was developed by B. Thies, Spezialmaschinen-Fabrik, Coesfeld/Westphalia, Germany. The dryer is fitted with a heat exchanger on the air inlet connected with the intake on the blower. With this system, a larger amount of heat is supplied without exceeding the blower output or raising the temperature. Under high pressure, the volume of air supplied by the blowers is substantially reduced (A-128)



German-Built Tenter

A complete tenter frame with housing, controls, and accessories is available from Reiner Famatex, Inc., Weehawken, N. J.

A combination pin-clip gripping unit allows changing in 30 secs. The chain runs on ball bearings, and rail edge is a synthetic replaceable unit.

No lubrication is required within the drying chambers or front of chain links. Speed is infinitely adjustable within 0 to 250 yds. per min., and light signals announce the cause of stoppage.

Drying production: for 64-in., 2 yds.-per-lb. cotton, dried from 100 to 7% moisture with 125 lbs. steam pressure: 14 yds. per min. per chamber.

With nylon-setting equipment, the tenter will set at up to 50 yds. per min.

The electrical equipment will be built by the Reiner organization to American standards. (A-129)

Motorized Scray

A versatile scray was developed by the Textile Div. of Tower Iron Works, Providence, R. I. The scray has motor-driven feed rolls and, according to the manufacturer, will provide a continuous, uniform-tensioned take-off for processing ranges that feed from rolls of cloth. (A-130)

Selvage Markers

An automatic selvage-marking attachment for finishing equipment was developed by Kaumagraph Co., Wilmington, Del.

The machine automatically applies Kaumagraph transfers to either one or two selvage edges at speeds up to 45 yds per min. Single or multicolor marks, of any reasonable design, are affixed in one operation. (A-131)

Ratine Machine

The ratine machine made by Kettling & Braun, Minden, Germany, is available from Stellite American Corp., New York 17, N. Y. Features are infinite control of the cloth speed and fully automatic lifting of the upper table. Ratine, flock, purled, and undulated effects in woolen and cotton fabrics can be produced on the ratine machine.

The machine has no superstructure, and cloth speed is controlled between 0.9 and 3 ft. per min. (A-132)

Vibrating Sieves

Vibrating sieves that provide a fast way to remove sand, grit, rust, scale, etc., from dyes and other liquids was developed by Syntron Co., Homer City, Pa. The screening is available in No. 10 to 325 mesh in phosphor bronze or stainless steel. The three-legged frame base fits over a large drum, barrel, or circular opening. Vibration is produced by two electric vibrators mounted on the base. (A-133)

Web-Slitting Blade

A split blade for slitting web plastics and textiles without tearing or downtime for blade alignment was developed by Moore & White Co., Philadelphia, Pa. The blade cannot be assembled in misalignment and cannot get out of alignment in operation. (A-134)

Floor space required is 7x6 ft. (A-114)

to 0.51 beats per inch. (A-119)

the seam injection required. (A-123)

Bleaching, dyeing, and finishing

Rope Saturator

An improved 10-ft. rope saturator has an elevated roll that, along with internal changes, is said to eliminate tangles and damaged fabrics. The machine was developed by Cook-P&N Machine Co., Inc., Boston, Mass. (A-135)

Selvage Trimmer

The new Hi-Speed selvage trimmer developed by Hermas Machine Co., Hawthorne, N. J., removes all selvage threads at speeds up to 150 yds. a min. with one pass through the machine. The trimmer unit is automatically guided to the selvage at all times.

The machine takes rolls up to 36 ins. in diameter, and any width can be furnished. A loop-clipping attachment is available.

A suction, exhaust, and collecting component is integrated. Single or double units are available for mounting on existing machines, or a complete machine can be supplied. (A-136)

Color-Matching Lamp

Developed for basic industrial color matching, the new Macbeth Industrial lamp has a one-piece construction.

Overall dimensions: height, 50½ ins.; width, 33⅜ ins.; depth, 19¼ ins. The lamp comes equipped with filters, diffusing glass, voltmeter, blower and motor, and operating control. The manufacturer is MacBeth Corp., Newburgh, N. Y. (A-137)

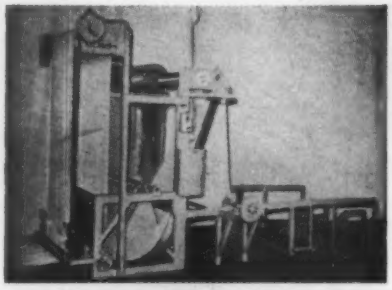
Cloth-Soaping Machine

A more-efficient model of its cloth-soaping machine was developed by James Hunter Machine Co., North Adams, Mass.

With a pneumatic-pressure system for the squeeze rolls, the machine provides accurate control of the soap content of the cloth and the maintenance of a uniform soap content from lot to lot. Stainless steel is used throughout the machine. (A-138)

Napper

A 24-roll napper made by Kettling & Braun, Germany, is available in the U. S. from Stellite American Corp., New York, N. Y. The Type KR 52 napper features variable feed control within a range of 180 to 800 ft. per min. and variable speed control of the rolls. (A-139)



Continuous Roll Feed

A new continuous roll feed made by Mount Hope Machinery Co., Taunton, Mass., is said to make it possible for an operator to sew on new rolls of cloth during the continuous top-speed operation of printing machines, frames, etc. In time, labor, and cloth, the device is estimated to save over $100 per machine per shift in many installations.

The continuous roll feed is an automatic scray equipped with controls that maintain a steady flow of goods. A large yardage is stored in a compact space; and hand feeding, uneven tension, dirt, bad seams, and other sources of waste are eliminated. (A-140)

Cloth-Folding Machine

A new cloth folder with a movable upper clamping member and solidly positioned table for handling corduroys and other heavy fabrics was developed by Hall & Jansson Co., Worcester, Mass.

The table is lifted by a large air cylinder and positioned through Micro switches, which can be adjusted for various thicknesses.

Goods can be removed while the folding blade continues to reciprocate. (A-141)

New Pigment Mixer

A new mixer manufactured by Gabb Special Products, Windsor Locks, Conn., is a portable mixer designed to mix pigments in the textile printing field. Two impellers turn in opposite directions, which creates a pumping action; and a shearing action breaks up particles. (A-142)

Dryer-Presser Roll

Made by Lukens Steel Co., Coatesville, Pa., this specially designed roll will be used for pressing and drying broadloom carpets in the ironing machine at C. H. Masland Co., Carlisle, Pa. (A-143)

Light Screen-Printing Carriage

A screen-printing carriage made of light alloys was developed by Wall & Co., Bolton, England, for use with the manual screen-printing method. The chassis can be raised or lowered with one finger through a control lever. (A-271)

Brushing Machine

A brushing machine that has a brush for the back of the cloth, a large steaming apparatus, and a return delivery underneath the machine was announced by Kettling & Braun, Germany. The machine is available in the U. S. through Stellite American Corp., New York, N. Y. (A-144)

Nylon Autoclave

A machine for setting nylon fabrics in the piece, introduced by Sanderson & Co. Ltd., Manchester, England, features a new method of steam injection and accurate and automatic control of the processing sequence.

Before steam is injected into the pressure chamber, a vacuum is created. The boiling point is lowered; and the problem of condensate, created by steam coming into contact with cold rolls, is reduced. (A-145)

► Heavy-duty infrared generator for high-intensity heating was developed by Edwin L. Wiegand Co., Pittsburgh, Pa. The generators are made in 66x12-ft. panels.

The panels are easily mounted on simple angle-iron supports. No fans or cooling equipment are required; the panel operates at 700° F. on the work. (A-146)

Multiple Leg Forms

Multiple-tier aluminum leg forms for nylon and Helanca socks have been developed by Turbo Machine Co., Lansdale, Pa., for use with its precision boarding and preboarding equipment.

Triple-tier forms for children's socks are said to offer a production of 350 doz. pairs in 8 hrs. when used in the Turbo AD-48 machine. Double-tier forms for men's socks offer increased production in a corresponding ratio to setting on single forms. (A-147)

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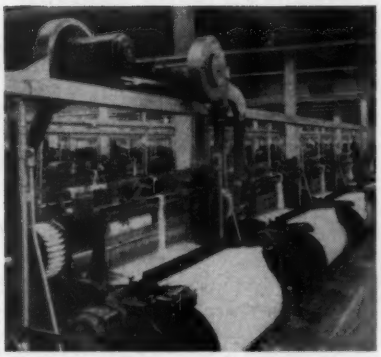
6 Auxiliary equipment 6



Traveling Loom Cleaner

A loom cleaner, Type CTL, that travels at 60 ft. per min. on a single track system was introduced by Parks-Cramer Co., Fitchburg, Mass. Oscillating and stationary air outlets reach to within a few inches of the surfaces. Loom coverage is up to 10 mins., depending on the situation, and the air current can be automatically reduced over critical areas. (A-148)

Narrow-Aisle Truck

A side-entrance and protecting overhead shield for the operator were features of the Model M Spacemaster truck made by Lewis-Shepard Co., Watertown, Mass. Equipped with an electric foot brake, the truck has three forward speeds and reverse. Available in 2000- and 3000-lb. models for high lifting and 4000-lb. capacities for low lifting. (A-149)

Clearer-Roll Cleaner

Made by Acme Machine & Tool Co., Charlotte, N. C., and distributed by Yeomans Textile Machine Co., Spartanburg, S. C., this machine automatically cleans clearer rolls. Rolls are dumped into a scray, from which they reach two knurled rolls where waste is removed by vacuum and transferred to the waste bin. (A-150)

Room Cleaner

The CTR-7 room cleaner was announced by Parks-Cramer Co., Fitchburg, Mass. The air distributor contains several air outlets, each at a different angle to the vertical. As the cleaner travels along the track, inclined air currents are continuously revolved in a 360° circle about the vertical axis. This updraft-cleaning feature was carried over from the older models. (A-151)

Twin-Fan Cleaning Unit

The twin-fan cleaning unit developed by Louden Machinery Co., Fairfield, Iowa, has 1-hp. motors driving each fan. One fan is aimed to the right rear of the traverse, and the front fan is aimed to the left of the traverse.

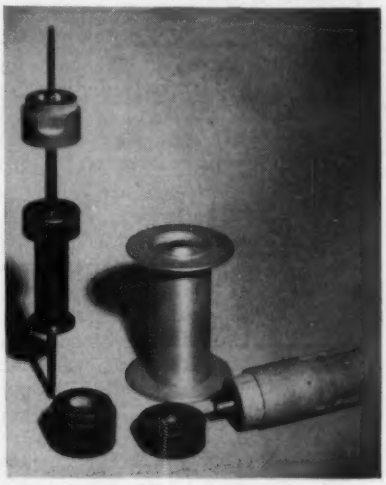
The electrification of the unit features a shockproof system. A third motor drives the unit. (A-152)

Floor Cleaner

The Airsweep floor cleaner, which sweeps lint continuously along the floor from frame to frame until it reaches a collection alley, was developed by Bahnson Co., Winston-Salem, N. C. At the collection alley, an angle-mounted cleaner blows the lint to an automatic removal unit. The cleaner has a double-inlet fan with horizontal air discharge, a fractional-horsepower motor, and a precision gear box. (A-153)

Traveling Cleaner

A frame-mounted traveling cleaner, Type CTF-5, was introduced by Parks-Cramer Co., Fitchburg, Mass. It is said to have increased cleaning capacity and to clean areas previously inaccessible to traveling cleaners. Since the same track is used, the new cleaners can replace older models. (A-154)



Bobbins

A combination supply and take-up bobbin was developed by Cloverleaf-Freeland Corp., Hazelton, Pa. With the dual-purpose bobbin, a redrawing operation in throwing Helanca is eliminated. After the conditioning process, the take-up bobbin becomes a supply bobbin with the use of a spindle adapter. Similarly, a take-up mandrel converts the bobbin to a take-up bobbin.

Two other new bobbins, an aluminum bobbin for throwing Helanca and a Bakelite twister bobbin, are also available from Cloverleaf-Freeland. (A-155)

Lintproof Enclosure

A lintproof enclosure, manufactured by I-T-E Circuit Breaker Co., Philadephia, Pa., to Joint Industry Conference requirements, assures reliable circuit-breaker operation in lint-laden textile atmospheres. Solid sheet-steel sides and back, with closed welded seams, contain no holes or knockouts. The enclosure is finished in enamel. Enclosures are available with I-T-E, F-, J-, and L-frame circuit breakers in ratings from 15 to 600 amps., 125 to 600 v. a.c., 125 to 250 v. d.c. (A-156)

Auxiliary equipment

Spring Tension Device

Applicable to bobbin and cone winders, warpers and circular knitting machines, the device provides exact adjustment of thread tension from 0.5 grams up, without tension weights. A compression spring in the casing regulates the tension. Made by H. Boehme Ltd., Manchester, England. (A-157)

Spindle Brake

Hartford Machine Screw Co., Hartford, Conn., offered an eccentric cam brake to fit any Hartford spindle. The brake can be attached or replaced without dismantling. Because of its cam action, the brake stays set. (A-158)

▶An overhead fan for cotton spinning frames has rubber blades fixed on a universal joint. The fan rotates slowly, and the blowing path sweeps half of each side of two adjacent frames. No rails are used, and two fans per frame are needed. Cost is about $140 per fan. Available from Stellite American Corp., New York, N. Y. (A-159)

▶A powerless drop was introduced by Gifford-Wood Co., Hudson, N. Y. It mechanically lowers cylindrical loads from one floor to another and discharges them automatically. Typical loads are cloth rolls, loom beams, and section beams. The powerless drop is installed in a shaftway, and it operates on a simple counterweight principle. (A-160)

▶A swinging clamp attachment, which can reach out to either side of a narrow aisle to grasp or tier loads behind material already stacked, was made available for fork-lift trucks by Clark Equipment Co., Industrial Truck Div., Battle Creek, Mich. The maximum capacity of the attachment is 600 lbs. (A-161)

▶Ball-bearing sheaves for cam looms with spring tops were made available from B&B Industries, Inc., Greenville, S. C. Single- and double-flange harness sheaves and compensating sheaves are available. (A-162)

▶A light-metal bobbin with 1-lb. capacity was announced by Steel Heddle Mfg. Co., Philadelphia, Pa., for throwing high-twist synthetic yarns. (A-163)

▶A two-ton air-conditioning unit with the Freon compressor and condenser and the fan in a roof box and the evaporator box hanging down into the room, was made available by Kritzer Products, Chicago, Ill. The unit requires no refrigerating connections or water drains. (A-164)

▶A new series of steam generators developed by Livingstone Engineering Co., Worcester, Mass., require approximately ½ sq. ft. of floor area per boiler horsepower. The generators operate at over 98½% efficiency with 100% power factor. Standard sizes: 1½ to 60 bhp.; pressures to 50 psi. (A-165)

▶A truck crane for loading and unloading bales from storage or cars has a 30-ft. boom that permits reaching and depositing loads from a wide area. Of 6000-lb. capacity, the vehicle is made by Elwell-Parker Electric Co., Cleveland, Ohio. (A-166)

▶A compact lubricating system especially designed for small machine elements was developed by Bijur Lubricating Co., Rochelle Park, N. J. Called the L Special, the unit is a complete lubrication system, reservoir, filter, pump, and meter units, in a package 2¼ ins. high, 1⅜ ins. deep, and 1¼ ins. wide, which is smaller than a pack of cigarettes. (A-167)

▶A semiautomatic bag packager announced by Errick International Corp., New York, N. Y., opens up the bag with air pressure and makes loading easy; flap and lip bags are opened automatically. Cost is $240; production is up to 1,500 packages an hour. (A-168)

▶A low-clearance, narrow-width electric fork truck called the Safety Silhouette truck was developed by Yale Materials Handling Div., Yale & Towne Mfg. Co., Philadelphia, Pa. Designed for over-the-road vehicle loading, the truck simplifies pallet loading in any tight space. (A-169)

▶A self-cleaning air filter has a glass-fiber filtering media for cleaning outside and recirculated air in ventilating and air-conditioning systems. Made by American Air Filter Co., Inc., Louisville, Ky., one Roll-O-Matic filter will last a year for a capacity of 10,000 cu. ft. per min. (A-170)

Cleaning Tank

The fluorescent-fixture cleaning tank made by C&S Lighting Maintenance Co., Cleveland, Ohio, has a wash tank that holds 4- and 5-ft. louvers 17 ins. wide, a 1,000- to 2,000-w. heating element, separate rinse tank, removable drain racks, a shelf for cleaning materials, and filling and draining hoses. (A-171)

Hardened-Plastic Bobbins

Developed by Lamplas Co., Monza, Italy, these bobbins are said to improve with use as they become seasoned, do not lose shape even if soaked in water, have no metallic reinforcements, and do not vary in size from precise measurements. (A-172)

▶Bobbin carriers are made to order by Standard Pressed Steel Co., Jenkintown, Pa. Each row of pins is bolted to the frame, which is welded to the chassis. Bobbin pins can be easily changed. The carriers can be cadmium or zinc plated or hot-dip galvanized. Four casters with large tires are used. (A-173)

▶A sewing-machine stand without front legs, developed by American Safety Table Co., Inc., New York, N. Y., gives the operator unlimited freedom of movement. Work aids such as bins, tracks, etc. can be moved partially under the table. (A-174)

▶A portable drum dumper that empties drums or barrels into vats and high-walled vessels was announced by Gifford-Wood Co., Hudson, N. Y. The dumper is controlled by one man at the push-button panel. (A-175)

▶A laminated-plastic one-piece redraw cap for Dacron shipping tubes was made available by Synthane Corp., Oaks, Pa. The snag-free cap fits all current Dacron shipping tubes regardless of inside-diameter variations. It fits snugly but can be snapped on or off. (A-176)

▶A tension control for sewing machines that automatically maintains the thread tension is available from Automatic Thread Control Co., Hempstead, N. Y. Readjustments are not necessary, even when color is changed. (A-177)

Four Lubricants

Four new lubricants were announced by The Pure Oil Co., Chicago, Ill.:

Purotwist, a twister-ring oil, provides rust protection for rings and travelers.

Purospin, a spindle oil, makes cold-weather start-ups easy. Contaminants are suspended in the oil.

Puroknit, a knitting-needle oil, has high resistance to size build-up and oxidation, protection against rust, and good scourability.

Rollex lubricants for bearing surfaces prevent lubricant creep and spatter. Saddle wicks and oil holes are said not to stop up with these lubricants. (A-178)

▶A submerged pump with no diaphragm or open seal was developed by Milton Roy Co., Philadelphia, Pa. The Mersemetric pump can be submerged in a storage tank of concentrated sulfuric acid. (A-179)

▶Removable fork extensions to allow loads to be stacked several deep were introduced by The Raymond Corp., Greene, N. Y. The truck can right-angle 48-in. loads from 72 in. aisles. (A-180)

High-Speed Cord Maker

No preparatory winding, warping, or twisting is necessary with the Jonsil cord maker made by C. G. Sargent's Sons Corp., Graniteville, Mass. The working principle is single-end knitting, and yarns are fed overend from any standard mill package. Production is up to 1,000 ft. per min., and price is about $1,300. (A-181)

▶Prepunched conveyor frames were made available by Sage Equipment Co., Buffalo, N. Y. With these frames, rollers can be repositioned to get different roll spacings. (A-182)

▶A marking machine for printing notched tickets, tags, and labels in rolls, fan-folded or in strips, was introduced by Markem Machine Co., Keene, N. H. (A-183)

▶A new series of centrifugal pumps was announced by Ampco Metal, Inc., Milwaukee, Wis. The 1,750-rpm. single-suction pumps are available in sizes ranging from fractional flow to 600 gals. per min. (A-184)

▶A high-temperature grease for light, high-speed bearings that will not stain fabrics and has no odor was developed by Tri-State Petroleum Co., Philadelphia, Pa. (A-185)

Ball-Bearing Pulleys

Ball-bearing pulleys for builder and traverse motions were announced by Seabrook Transmission Co., Anderson, S. C. The pulleys, which are shipped assembled with sealed ball bearings and ground studs, are said to eliminate trouble caused by worn pulleys—lost motion, ring-rail dwell, and tangled yarn. (A-186)

▶A cradle attachment developed by Elwell-Parker Electric Co., Cleveland, Ohio, gives an extra reach to fork trucks for handling rolls in a pile. The cradle arms grip a rod or bar inserted through the core of the roll. (A-187)

▶A new calender-bowl grinding machine, developed by Dronsfield Brothers Ltd., Oldham, England, can be used to recondition calender bowls in the mill; and the machine can be supplied to suit the range of bowls used in a mill. (A-188)

▶A blower attachment on the Plantman Floormobile, available from handling Devices Co., Inc., Brookline, Mass., adopts the cleaning machine for removing lint and fly from spinning- and weave-room floors and under machines. (A-189)

▶Conveyor sections made with a nylon bearing turning on a stainless-steel axis was made available by Metzgar Conveyor Co., Grand Rapids, Mich., for conveyors that operate under brine, alkali, or acid conditions. (A-190)

▶A general-purpose metallizing gun to spray any metal from molybdenum to wires with low melting points was developed by Metallizing Co. of America, Chicago, Ill. (A-191)

▶Imitation fashion marks are made with the Fashion Stitch machine made by Lewis Invisible Stitch Machine Co., New York, N. Y. The machine has a cylinder-type arm and a removable flat work plate. The plate is used to apply the stitch before the open sleeves and sides are closed. (A-192)

Quilting Machine

A new quilting machine that is said to fill the gap between embroidery and quilting operations was developed by All Stitch Machine Corp., New York, N. Y. Optimum operation of the new machine is between 1,000 and 2,000 stitches per yard per needle. Stitching speed is 300 cycles per minute; with 1,000 stitches per yard per needle, linear production would be 15 to 18 yds. per min. (A-193)

Stacking Rack

A portable electrically powered lift, called STAKRAK, was developed by Chicago Tramrail Corp., Chicago, Ill. It is basically for the carpet industry but can be adapted to warp beams. Loads up to 1000 lbs. can be lifted 10 ft. The unit is made of structural members mounted on an 8-wheel base. (A-194)

▶A bale-tie splicer that produces a salvaged band almost as strong as the original band was announced by A. J. Genard & Co., Melrose Park, Ill. The splicer will handle all bands normally used for cotton-bale ties. (A-195)

▶A tractor lift with a simple electric hydraulic unit for lifting and lowering semiskids was developed by Market Forge Co., Everett, Mass. (A-196)

▶A complete line of round-cornered, knocked-down steel floor trucks was introduced by Kennett Equipment & Machinery Co., Kennet Square, Pa. (A-197)

▶A one-piece wool fork, newly designed and made of selected Eastern hickory, was introduced by Torrey Bros. Co., Wood Specialties, Central Village, Conn. Advantages are reduced fire hazard, less friction, and virtual elimination of static. (A-198)

▶A two-needle lockstitch machine for light to medium-heavy sewing is made in gauges from 3/8 to 1½ ins. Made by Singer Sewing Machine Co., New York, N. Y., the machine has a 1 7/16-in. needle-bar stroke, ¼-in. clearance under the pressure foot, and 10½ ins. of free space to the right of the needle. It will make down to six stitches per inch. (A-199)

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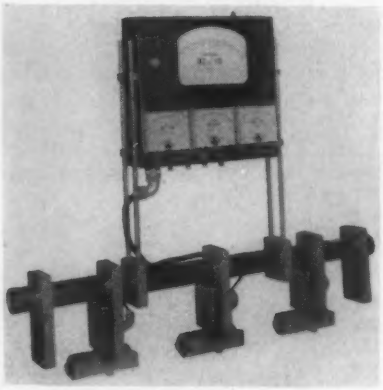


Two-Way Lap Control

A picker-lap tester for the continuous measurement and control of both longitudinal and lateral lap thickness was developed by Brush Electronics Co., Cleveland, Ohio, in cooperation with the Institute of Textile Technology.

In operation, three measuring rollers are in contact with the lap as it passes over the calender rolls. Each roller is connected to a separate meter, and variations shown by individual meters indicate longitudinal variations; comparing the meters indicates lateral variations. Actual weight is indicated, and the three readings are averaged on a third meter. A recorder can be connected. (A-200)

Moisture Controller

The B&W automatic moisture controller, said to be adjustable to hold constant any moisture content between 4% and 12%, was developed by B&W Electronic Research Laboratories, Dallas, Tex. The controller, continuously adjusting the machine speed, keeps the moisture content at the controller setting instead of varying between established limits. (A-201)

Uster Attachment

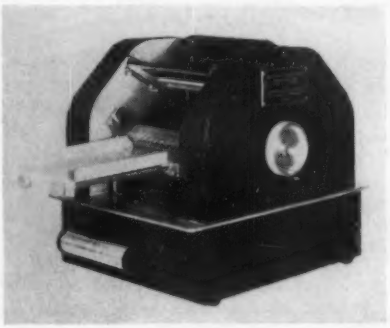
The automatic Hy-Lo Indicator developed by Uster Corp., Charlotte, N. C., will indicate at a glance the exact number of thick spots and thin spots in yarn that are outside predetermined limits. The indicator operates through the Uster evenness tester. (A-202)

Static-Control System

TAKK high-speed static-control systems have been redesigned to incorporate a new resistance material designed by the manufacturer, The Hewson Co., Inc., Newark, N. J. The resistance material makes possible more-effective static control on high-speed processing equipment. (A-203)

Dye-Package Tester

The dye-package permeability comparator developed by Sheffield Corp., Dayton, Ohio, gives an instant reading in numeral values of the degree of density of dye packages. The comparator can be used to determine optimum package density, check winding performance, and check incoming shipments. Up to four packages a minute can be checked. (A-204)



Predicts Cotton Neppiness

A new instrument for predicting the tendency of raw cotton to form neps was made available by Wright Machinery Co., Durham, N. C. It was developed by the Department of Textile Research at N. C. State College for the U. S. Dept. of Agriculture.

Called the Nepotometer, the new instrument will predict the comparative neppiness of cottons in processing and classify cottons into a standard class according to the tendency to nep. (A-205)

Unevenness Tester

The Sigma unevenness tester measures the unevenness of yarn, roving, sliver, and top. It incorporates an integrator, which gives standard deviation and coefficient of variation on a specific sample of yarn. Given the two integrator readings, the coefficient of variation can be read directly from graphs provided as an accessory.

Developed jointly by Electronic Associates Ltd., Willowdale, Ont., and Ontario Research Foundation, the capacitance-type instrument has no zero drift, and the results are reproducible. Testing speed can be set at 6, 12, and 48 meters per minute. (A-206)

Equipment Tester

An electronic testing system for measuring the frequency-response characteristics of control mechanisms, piping, valves, and tanks without actually test-installing the equipment was developed by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

The new system, known as a servo analyzer, automatically translates behavior characteristics of equipment to a chart record. (A-207)

Electronic Metal Detector

An electronic metal detector designed to permit continuous inspection of textiles was developed by Radio Corp. of America, Industrial Products Section, Camden, N. J. It indicates the presence of magnetic, nonmagnetic, ferrous, and nonferrous metals and will inspect materials moving at speeds from 25 to 1,000 ft. per min. (A-208)

Draft-Wave Recorder

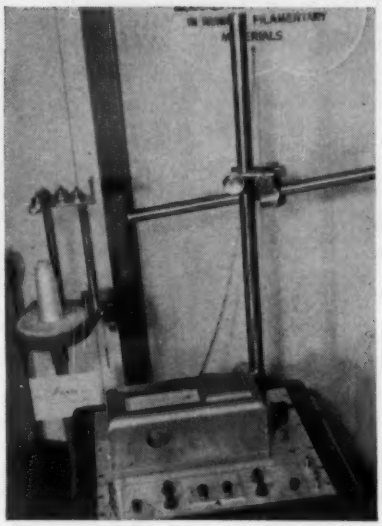
The Spectrograph, an attachment for the Uster Corp., Charlotte, N. C., evenness tester, indicates the character of irregularities in yarn, roving, and sliver by recording the wave lengths of the variations. A direct value of the periodic variation is given. The Spectrograph is said to indicate from yarn tests alone the manufacturing process that is causing unevenness. (A-209)

Long-Fiber Stapler

The Schlumberger analyzer for stapling wool and long-fiber synthetics is available from Uster Corp., Charlotte, N. C. This instrument automatically sorts a large sample of 2- to 14-in. fibers in 15 mins.; and a complete analysis, including normal calculations, can be made in about an hour. (A-210)

Yarn Analyzer

The high-speed yarn analyzer developed by Fielden Instrument Div., Robertshaw-Fulton Controls Co., Philadelphia, Pa., contains an electronic computer that presents immediately, on memory dials, four separate measures of yarn quality. The device can be operated efficiently by nontechnical employees. (A-211)



Tension Analyzer

The Brush tension analyzer was developed by Brush Electronics Co., Cleveland, Ohio. It is a mobile unit for measuring and recording instantaneous tension loads in filament yarns. Tension range is 4 to 400 grams full scale.

The tension analyzer filters out short-term tension variations as desired by the operator. This feature permits the isolation of long-term cyclic variations such as those caused by a traverse motion. (A-212)

Microscope Projector

A combination microscope and projection system was announced by William J. Hacker & Co., Inc., New York, N. Y. The Fibroscope allows discussion by a group of observers. Range of magnifications is 75X to 500X. (A-213)

Direct-Reading Shadograph

A new Shadograph that gives the yarn number of sliver directly without the use of a conversion table was developed by Exact Weight Scale Co., Columbus, Ohio. Four scales give a range from 1,000s to 4s. (A-214)

Nep Counter

Neptel is an electronic instrument for counting yarn imperfections such as neps, motes, naps, etc. Developed by the research department of West Point Mfg. Co., West Point, Ga., the Neptel is manufactured and distributed by Sheffield Corp., Dayton, Ohio. (A-215)

Colorimeter

The Davis-Bruning colorimeter made by Fisher Scientific Co., Pittsburgh, Pa., was offered for matching, mixing, shading, and specifying colors. Color drift from lot to lot is prevented by reference to the numerical formula produced by the machine as it views the shades. Eight specially selected reference colors are provided. (A-216)

Automatic Tension Control

The Frankel automatic tension control made by W. T. Hawold Co., Brooklyn, N. Y., was offered as applicable to slashing, beaming, knitting, dyeing, and weaving operations. It works on yarn or fabric through a dancer roll that is part of the winding or unwinding operation. As the dancer roll is forced up or down by changes in tension, a voltage control is actuated that feeds current to an oil-immersed electromagnetic brake, or to a clutch as needed. Regulation of the voltage can produce any desired tension. (A-217)

► A combination colorimeter and spectrophotometer was made by Bausch & Lomb Optical Co., Rochester, N. Y. Range is from near ultraviolet to near infrared. Routine colorimeter tests can be checked against predetermined calibrations supplied with the instrument. (A-218)

Drape-Flex Tester

Developed by the Clothing Supply Office of the Navy, the Drape-Flex Stiffness Tester measures how a fabric drapes under its own weight and how stiff it feels when flexed by hand. It is available from Fabric Development Tests, Brooklyn, N. Y. (A-219)

► The Handle-O-Meter, an instrument developed to evaluate the handle of a fabric, is available from Thwing-Albert Instrument Co., Philadelphia, Pa. Results agree well between instruments and between operators, and the results agree well with ratings made by skilled evaluators.

An electric strain gauge detects differences that go into the final result, and an electric meter indicates the numerical value of the test. The results do not depend on the human element, and a complete test can be made in 15 secs. (A-220)

Regulating, controlling, measuring, and testing

Tension Control Unit

Made by Edward J. McBride Co., Philadelphia, Pa., this unit is designed to provide instantaneous adjustment of tension. Numbered settings permit visual control. Applicable to existing warper creels, the unit is equipped with a Plexiglass shield that prevents snarling of ballooning yarn at any warper speed. (A-221)

Pilling Tester

The pilling tester developed by the Navy has been put on the market by Fabric Development Tests, Brooklyn, N. Y. It was developed for the routine control and acceptance testing of woven and knitted fabrics; and tests, wet or dry, take 3 to 10 mins. Results agree closely with actual pilling in wear. (A-222)

Zweigle Instruments

Testing instruments made by K. Zweigle Reutlingen in Germany are available through Stellite American Corp., New York, N. Y.

1. Staple sorter is used to find average fiber length and the frequency distribution of fibers in a sample. Calculations give an indication of spinning performance. (A-338)

2. Flex tester is used to test the continuous flexibility of fabrics. Two fabric strips are controlled at the same time, and the range of testing is from 0 to 12 kg. (A-339)

3. Abrasion tester for yarn indicates the quality of sizing. Damage done by bleaching and purifying agents can also be determined. (A-340)

4. Bending tester determines the bending coefficient of synthetic materials. Samples of a single fold can be stretched or pressed together in any desired degree. An eight-digit counter records the bends. (A-223)

►A recorder-totalizer that provides a visual and permanent record chronologically of the time a piece of equipment or a process is on or off was introduced by Heat Timer Corp., New York, N. Y. (A-224)

►A cloth-thickness tester, made by Reynolds & Branson Ltd., Leeds, England, is said to give a precise and reproducible measure of cloth thickness. Pressures from 5 to 100 grams per square centimeter can be applied to the test fabric. Cloth thickness is read directly from the dial. (A-225)

Testing Instruments

Eight testing instruments were developed by Karl Frank GmbH., Weinheim-Birkenau, Germany. (A-226)

• A strength tester measures the tenacity and elongation of a sample to rupture. The instrument has four ranges, each with two load scales; maximum load is 100 kgs. (A-227)

• A yarn-chafing tester helps predict the performance of yarn in fabrics by rubbing two pieces of yarn together to breaking. (A-228)

• An abrasion-resistance tester to help predict the performance of fabrics has a variety of attachments that test various factors. Significant factors that are measured are rate and pressure of abrasion, stretch of sample, and moist, wet, edge, and yarn abrasion. (A-229)

• A fiber tester measures the strength and elongation of all textile fibers. Fibers are cut to 25 mm.; 40 fibers should be tested. Tests of fiber recovery and plastic deformation under heat are important uses of the instrument. (A-327)

• The Frank conditioner determines the absolute moisture content in textiles. This determination is speeded up by making the test in a hot-air current, in contrast to the operation of a dryer. The constant flow of air prevents the formation of moist-air packets. (A-328)

• A yarn-strength tester is fully automatic. The speed of travel of a testing arm is practically constant irrespective of the load; the speed is adjustable over a wide range (from 1 to 50 to 1 to 100); the return travel is at the maximum speed; and the drive stops quickly in the extreme positions. (A-329)

• A bending resistance tester is used for measuring the bending resistance (pliability) and the flexural elasticity of fabrics and yarns. The tester measures the bending force that is required to impart a given flexure to a sample. (A-330)

• A precision dryer consists essentially of the drying chamber and the balance. The dryer, which is insulated and can be closed with a door, works from an electrical outlet. A three-step switch controls heating. (A-331)

►The GFB-DP Vibrascope is a research or production instrument that measures single-fiber linear density or denier by vibrating the weighted fiber at constant frequency. (A-332)

Control Device

The Lod-Cap, manufactured by Link Engineering Co., Detroit, Mich., automatically measures and controls the running tension of a sheet of material. In textiles, it is used for controlling the tension of fabrics—especially coated, nonwoven, and synthetic-fiber fabrics.

A tension-control device balances the load on a rewinder and slitting machine by transmitting air-pressure signals to a recorder-controller, which controls the brake load on the let-off roll.

If a rapid fall-off in tension occurs, the let-off roll is stopped instantly through an air diaphragm and brake. To establish the proper tension on the variable-speed take-up roll, the let-off is brake loaded. (A-333)

►A portable electronic vibration analyzer, capable of balancing rotating parts at speeds up to 5,000 rpm. and tracing vibrations up to 20,000 cpm.. was announced by International Research & Development Corp., Columbus, Ohio. Analysis is accomplished through electronic frequency and displacement circuits, which render data on panel meters. (A-334)

►The C&R thickness tester was put into production at Custom Scientific Instruments, Inc., Arlington, N. J. The instrument combines a number of ASTM specifications for thickness measurements into one instrument. It can be used to test thickness of knit goods, woven glass fibers, pile floor covering, backing, etc. (A-335)

►A new Blak-Ray ultraviolet lamp, Model 3X-4, particularly adaptable to the textile industry, was announced by Ultra-Violet Products, Inc., South Pasadena, Calif.

Because the invisible rays make substances fluorescent, variations that are invisible in ordinary light stand out when exposed to an ultraviolet-ray lamp. Complete with tubes, the new model sells for $39.75. (A-336)

►The temperature testing chamber made by Statham Development Corp., Los Angeles, Calif., has been improved with a loading port for adding dry ice, an increased maximum temperature range to 350° F., and a thermometer mounted in the front of the chamber. (A-337)

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Power generation and transmission

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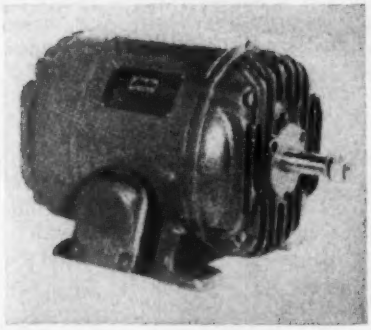
8 Power generation and transmission 8



New Loom Motors

A new series of Life-Line loom motors, designed for longer life and additional cooling and with stronger construction, was presented by Westinghouse Electric Corp., Pittsburgh, Pa.

Available in several ratings, these totally enclosed nonventilated motors have over-size bearings with a special grease to give longer motor life. A shrunk-fit flywheel provides high inertia for smoothing out fluctuating loads. (A-230)

Adjustable-Speed Drive

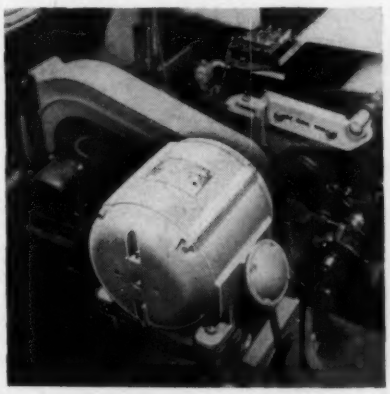
A magnetic-amplifier adjustable-speed motor drive converts a.c. power from a 115-v., 60-cycle source to d.c. power for a d.c. motor. The standard unit provides a speed range of 10 to 1 for motors from 1/40 to ½ hp. No warm-up period is necessary. Optional features include jogging, dynamic braking, and reversing. Manufacturer: Clark Controller Co., Cleveland, Ohio. (A-231)

▶ An automatic-pneumatic control that automatically compensates for variation in output speeds was offered by Reeves Pulley Co., Columbus, Ind., as a matched attachment for its Motodrive. (A-232)

Hydraulic Transmissions

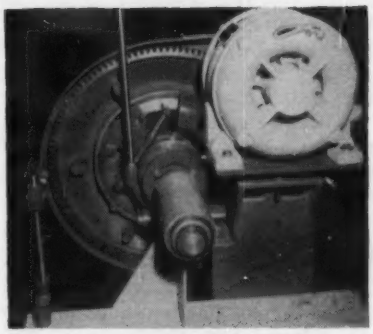
Variable-speed hydraulic transmission units were introduced by Vickers, Inc., Detroit, Mich. Applicable to machine drives on pads, tentering frames, dyebecks, and other equipment requiring accurately controlled variable speeds, they can be run constantly at any selected speed from zero to 1,000 rpm. Creep speeds are not limited by speed selection or length of operation. They are available in several standard models. (A-233)

▶ An electric brake and clutch for small electrically operated instruments and machinery was developed by Warner Electric Brake & Clutch Co., Beloit, Wis. The units have high-speed engagement and release. (A-234)



Loom Motor

A loom motor developed by Crocker-Wheeler Div., Elliot Co., Jeannette, Pa., has a high-inertia rotor and uses no flywheel, transmitter arrangement, or external inertia aids. To withstand the shock of fluctuating loads, roller bearings are on the shaft end and heavy-duty ball bearings on the front end. (A-235)



Improved Card Drive

The redesigned individual card drive made by Southern States Equipment Corp., Hampton, Ga., consists of a 1.5-hp. standard motor with a fibre pinion driving a large gear on the card shaft; and the drive is controlled by a clutch lever and a spring-loaded, self-adjusted clutch. Slippage is allowed for the starting load, and full speed is attained in about 30 secs. (A-236)

Loom Switch

A new push-button loom switch was announced by The Arrow-Hart & Hegeman Electric Co., Hartford, Conn. The switch has a lintproof enclosure with a hinged door protected by a neoprene gasket. (A-237)

NEMA-Standards Motors

Integral-horsepower a.c. motors, designed specifically to conform to the new NEMA standards, were announced by the Electric Motor Div., A. O. Smith Corp., Tipp City, Ohio.

Initial production is in 1-, 1½- and 2-hp. ratings in 203, 183, 204, and 184 frame sizes. Performance characteristics of the old and new motors will be equal. (A-238)

Power generation and transmission

Magnetic-Amplifier Control

A new motor-speed control called The Franklin Drive has been introduced by Franklin Control Corp., Milwaukee, Wis.

The drive is easily mounted and installed so that any machine operator can select the exact speed desired. Once the speed is set, it remains nearly constant as the load on the motor changes. (A-239)

Electric Clutch

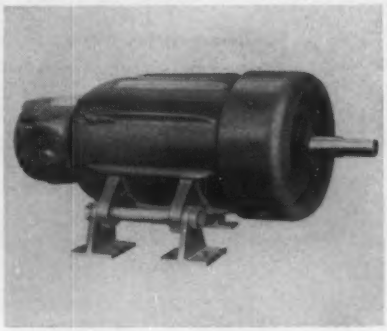
An electromagnetic clutch is combined with a variable-speed transmission, made by Reeves Pulley Co., Columbus, Ind., to give controlled acceleration and deceleration, selection of operating speeds while a machine is stopped, and jogging and inching. The clutch can be put on the input or output shaft. It is available on sizes No. 0, 1, 2, and 3 Reeves horizontal transmissions. (A-240)

► A new line of electronically controlled variable-speed drives was developed by Master Electric Co., Dayton, Ohio. The electronic control permits speed to be responsive to signals based on speed, load, current, voltage, pressure, light, temperature, or time. A.c. power is converted to supply a d.c. variable-speed shunt-wound motor. (A-241)

► A variable-speed drive with ranges from 2 to 1 to 10 to 1 was developed by Reeves Pulley Co., Columbus, Ind. Redesigned to save space and with improved lubrication, it is available in 112 different assemblies in speeds from 3 to 4,660 rpm. (A-242)

► An induction motor designed for longer motor life, greater flexibility, and higher reliability, as well as decreased size, was announced by Westinghouse Electric Corp., Pittsburgh, Pa. The Life Line-A has improved ventilation, better insulation, and a more efficient and better-protected bearing and is quieter and smaller per horsepower. (A-243)

► A dripproof motor was developed by U. S. Electrical Motors, Inc., Los Angeles, Calif. Available in frame sizes 182 and 184, the motor meets the same standards as its larger predecessor in temperature rise, torque, and overload capacity. (A-244)



Spinning-Frame Motor

An air-cooled motor for spinning frames was announced by Reliance Electric & Engineering Co., Cleveland, Ohio. It is mounted under the frame. An axial-flow fan forces air at a high velocity over the motor. In this manner, motor heat is distributed to a large surrounding area to eliminate hot spots anywhere along the spinning frame. (A-245)

► The Speed Variator, announced by Cleveland Worm and Gear Co., Cleveland, Ohio, is available in 9 sizes, from ¼ to 10 hp., at 1,750 input rpm. The Speed Variator produces an infinitely variable range of output speeds from a constant power source. Operating efficiencies of 75 to 90% are maintained. (A-246)

► The development of a motor specially designed for chemical services was announced by U. S. Electrical Motors, Inc., Los Angeles 54, Calif. The motor is totally enclosed and corrosion protected and is produced in ratings from 3 to 150 hp. (A-247)

► Three-coil overload protection is provided by a starter for industrial motors manufactured by Cutler-Hammer, Inc., Milwaukee, Wis. Chances are one in three that the high current line in a wye-delta system will be unprotected with two-coil overload protection. (A-248)

► Poly-V-Drive is an endless rubber belt with a series of parallel V-ribs molded lengthwise around the inside circumference. The grooves mate precisely with the belt ribs, and the load is distributed equally. The manufacturer is Raybestos-Manhattan, Inc., Passaic, N. J. (A-249)

NEMA-Standards Motors

A new line of squirrel-cage induction motors has been announced by Reliance Electric & Engineering Co., Cleveland, Ohio. The motors are built to the new NEMA standards.

The first motors are built for 1-, 1½- and 2-hp. applications, in frame sizes 182 and 184. The balance of the line, up to and including 30 hp., will be introduced at regular intervals. (A-250)

► A packaged hydraulic output drive with a constant-displacement axial-piston motor and a Falk reducer was developed by Oilgear Co., Milwaukee, Wis. It is available in 1-, 3-, 8-, 12-, and 20-hp. sizes. Reducers provide output speeds from 1.7 to 1,170 rpm. (A-251)

► A torque limiter for overload protection was introduced by Morse Chain Co., Detroit, Mich. It combines an overload slip-clutch with a flexible coupling, at maximum torque capacities of 130 ft.-lbs. and 260 ft.-lbs. (A-252)

► A safety-switch enclosure made of lead-plated sheet steel was developed by Trumbull Components Dept., General Electric Co., Plainville, Conn. The enclosures are designed for outdoor use and for humid, dustladen, or corrosive atmospheres. (A-253)

► The Hydro-Wynd drive manufactured by Twin Disc Clutch Co., Racine, Wis., is available in Models 12.2 and 8.4. The 12.2 unit is a large-capacity drive. To date, the main application of the drives has been on warpers. (A-254)

► A stepless adjustable-speed drive, the Electronic Select-A-Speed, was announced by Louis-Allis Co., Milwaukee, Wis. It operates from a.c. power lines and is available with d.c. motors in standard NEMA frame sizes, ¾ to 15 hp. (A-255)

► A new split hydraulic transmission for textile machinery is available from Vickers, Inc., Detroit, Mich. Completely sealed and self-lubricated, the drives have been made for slashers, pickers, dyebecks, and continuous washers. (A-256)

Annual Review of New DYES *and* CHEMICALS

Dyes

Acids, Basics, Synthetics, and Chromes

Acid Dyes

Xylene Fast Bordeaux P was announced by Sandoz Chemical Works, Inc., New York, N. Y., as a new addition to the "P" line, with which it works well, producing bluish tones of bordeaux with good fastness properties. **(B-1)**

Sulfonine Scarlet GWL was offered by the same manufacturer as superior to Sulfonine Reds in fastness to washing, fulling, light, and storing. Recommended for dyeing chlorinated tops or for knitting yarns where washfastness is important. **(B-2)**

National Alizarol Cyanone BLL was added by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., to the line of mordant-acid dyes. It can be applied by all three chrome-dyeing methods with equal fastness results, but bottom-chroming produces fuller and redder shades. **(B-3)**

Irgalan Red 3G and **Irgalan Brown Violet DL**, for dyeing wool, silk, and nylon in the piece or in stock, top, or yarn form, was announced by Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y. Lightfastness is good. The Brown Violet DL goes redder under artificial light. **(B-4)**

Polar Brilliant Violet BL was announced by Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y. Bright shades of violet on nylon and wool are produced from neutral or weak acid baths. Fastness characteristics are good. **(B-5)**

Cloth Fast Brilliant Violet FRL was announced by Ciba Co. Inc., New York, N. Y., as a new violet dye suitable for wool, nylon, and silk. It has good fastness to light, washing, perspiration, and sea water and is recommended for dyeing slubbing, yarn, or piece goods. It resists chroming and can also be used for printing silk and wool. **(B-6)**

Chromolan Red GRE is a premetallized acid dye offered by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. The dye is very soluble and has good fastness characteristics. It can be dyed on highly acidic goods to give bright, yellowish-red shades on wool. It dyes nylon from an acid bath. **(B-7)**

National Fast Light Yellow 2GML was offered by National Aniline Div. Allied Chemical & Dye Corp., New York, N. Y. Dyes with acetic or sulfuric acid to give clear yellows of good fastness on wool. **(B-8)**

Lanasyn Green BL Pat. was added to the Lanasyn line by Sandoz Chemical Works, Inc., New York, N. Y. Fastness characteristics of this bright bluish-green dye are similar to the other colors in the Lanasyn series. **(B-9)**

Lanasyn Brown RL. Pat., and **Lanasyn Grey BL** were developed by Sandoz Chemical Works, Inc., New York, N. Y., for dyeing wool, nylon, and silk. The Lanasyns are claimed to be easily handled and less sensitive to iron in dye liquors than some chrome colors. They are recommended for yarn, top, or piece goods and will work with chrome dyes. Fastness characteristics make them suitable for men's-wear fabrics. **(B-10)**

National Fast Wool Yellow GL produces bright clear shades of yellow on wool and is recommended by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., for dyeing wool flannels, dress goods, and felts. Good fastness to light, steaming, alkalis, pressing, and crocking are claimed. **(B-11)**

Brilliant Alizarine Fast Blue G was offered by Ciba Co., Inc., New York, N. Y., for the production of bright, greenish-blue shades of good lightfastness on wool, silk, and nylon. It can be applied in neutral or weak-acid baths and is stable to chrome and long boiling. **(B-12)**

National Chromolan Green BL is a nondusting premetallized acid dye announced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. Recommended for carpet yarns, knitting yarns, and dress goods, it is suited to dyeing unneutralized carbonized goods or material that has been acid-chlorinated. Good general fastness characteristics are claimed for the dye. **(B-13)**

National Fast Wool Orange FF was marketed by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., as a level-dyeing acid dye for wool that leaves cotton, viscose, and acetate practically white. Good fastness to light and carbonizing are claimed. **(B-14)**

Basic Dyes

Basic Yellow OL, Basic Red 4G, and **Basic Blue OB** were announced by E. I. du Pont de Nemours & Co. Inc., Wilmington, Del., as particularly suited to dyeing Orlon 41. The group has 40-hr. lightfastness and good washfastness and exhibits little staining of wool or cellulosic fibers; it is therefore recommended for dyeing of blends of Orlon and wool. **(B-15)**

Synthetics Dyes

Amacron dyes were specially developed for dyeing Dacron by carrier or pressure methods. Fastness to most requirements is from good to excellent. American Aniline Products Co., New York, N. Y. **(B-16)**

Latyl Yellow YL was announced by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., as suitable for shades of bright greenish-yellow on Dacron up to 2%. It can be applied

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A FACT: In 1953, the average age of full-fashioned knitting machines in use in the United States was just over 10 years. In that same year, the average age of machines in mills that closed was almost 17 years. (Textile Machine Works, 1953 Statistical Survey)

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by carrier or by pressure methods. Useful as a shading color in tans and browns, it can also be used on Orlon 42 and on Dacron-wool blends. It is fast to light, washing, and perspiration on Dacron or Orlon. (B-17)

Latyl Violet 2 R, offered by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., yields true bright, violet shades on Dacron. Applied from benzoic acid or orthophenylphenol baths, it dyes levelly, with good penetration. A good shading color, it is not suitable for the base of browns or blues because of change in shade under artificial light. Staining of the wool on Dacron-wool blends is not objectionable. (B-18)

Chrome Dyes

Chrome Fast Bordeaux FBL, Cloth Fast Yellow GW, Cloth Fast Brilliant Red 3 RW, and **Cloth Fast Blue 3R** are a series of chrome dyes offered by Ciba Co, Inc., New York, N. Y., for wool and blends suitable for men's- and women's-wear fabrics. (B-19)

National Alizarol Brown DKL was marketed by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., for dyeing by all three chrome processes. Good to excellent fastness properties. (B-20)

Omega Chrome Brown PGL p.a.f. and **Metomega Chrome Brown PGL p.a.f.** were recently announced by Sandoz Chemical Works, Inc., New York, N. Y. They are homogeneous chrome dyes designed for wool. The producer recommends afterchrome, metachrome, and chrome-mordant methods of dyeing. Fast to light, washing, milling, and carbonizing, they can be used in stocks that will be cross-dyed and milled. (B-21)

Directs, Napthols, Sulfurs, and Azoics

Direct Dyes

Cuprophenyl Violet 3 RL was offered by Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y. It produces bright, reddish shades of violet on cotton and rayon. An easy-washing color, it has good washfastness and excellent lightfastness and is improved in these respects by resin finishing. (B-22)

National Solantine Blue BLL was marketed by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. It produces reddish, moderately bright blue shades on cotton and rayon. Lightfastness is excellent. (B-23)

Yellow 2 RLL was introduced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. Excellent fastness characteristics, good solubility, and resistance to metals are features of this dye, which produces medium-yellow shades on cellulosic fibers. (B-24)

National Solantine Grey GVF was introduced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. It dyes blue-gray shades on cotton and rayon, which have improved washfastness when the dyed fabrics are given resin finishes plus National Naccufix. (B-25)

Calcodur Resin Fast Gray 2G and **Calcodur Resin Fast Gray B** were announced by American Cyanamid Co., Bound Brook, N. J., as specially suited to dyeing cotton or rayon fabrics that are to be resin finished. (B-26)

Cuprophenyl Brilliant Blue 2BL and **Cuprophenyl Rubine RL** were added to the line of Cuprophenyl dyes by Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y. After-treatment with copper produces full shades of good light- and washfastness. Cuprophenyl Brilliant Blue 2BL does not stain acetate and may be used for cross-dyeing effects. (B-27)

Diphenyl Fast Orange GRW was introduced by Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y., for producing bright orange shades on cotton and rayon. It has good fastness to washing and perspiration and is dischargeable. (B-28)

Solophenyl Brilliant Green 5GL was announced by Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y. Bright yellowish-green shades of good lightfastness are produced that may be aftertreated with copper compounds. (B-29)

Chlorantine Fast Gray NGLL was offered by Ciba Ltd., Basle, Switzerland, for dyeing lightfast shades on cotton and rayon. (B-30)

National Erieform Yellow GR was offered by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. It dyes cotton and rayon medium shades of yellow, improved in fastness by aftertreatment with formaldehyde or resins. (B-31)

Chlorantine Fast Blue 2 BLL was introduced by Ciba Ltd., Basle, Switzerland. Recommended for dyeing yarn, knit goods, and dress materials where lightfastness is desirable. Not dischargeable. (B-32)

National Solantine Blue GLEV was announced by National Aniline Div. Allied Chemical & Dye Corp., New York, N. Y. On cotton or rayon, the dye produces moderately bright shades of blue. Medium-depth dyeings on rayon are said to rate 8 for lightfastness. Lightfastness is said to suffer little impairment from resin finishing. (B-33)

Naphthol Dyes

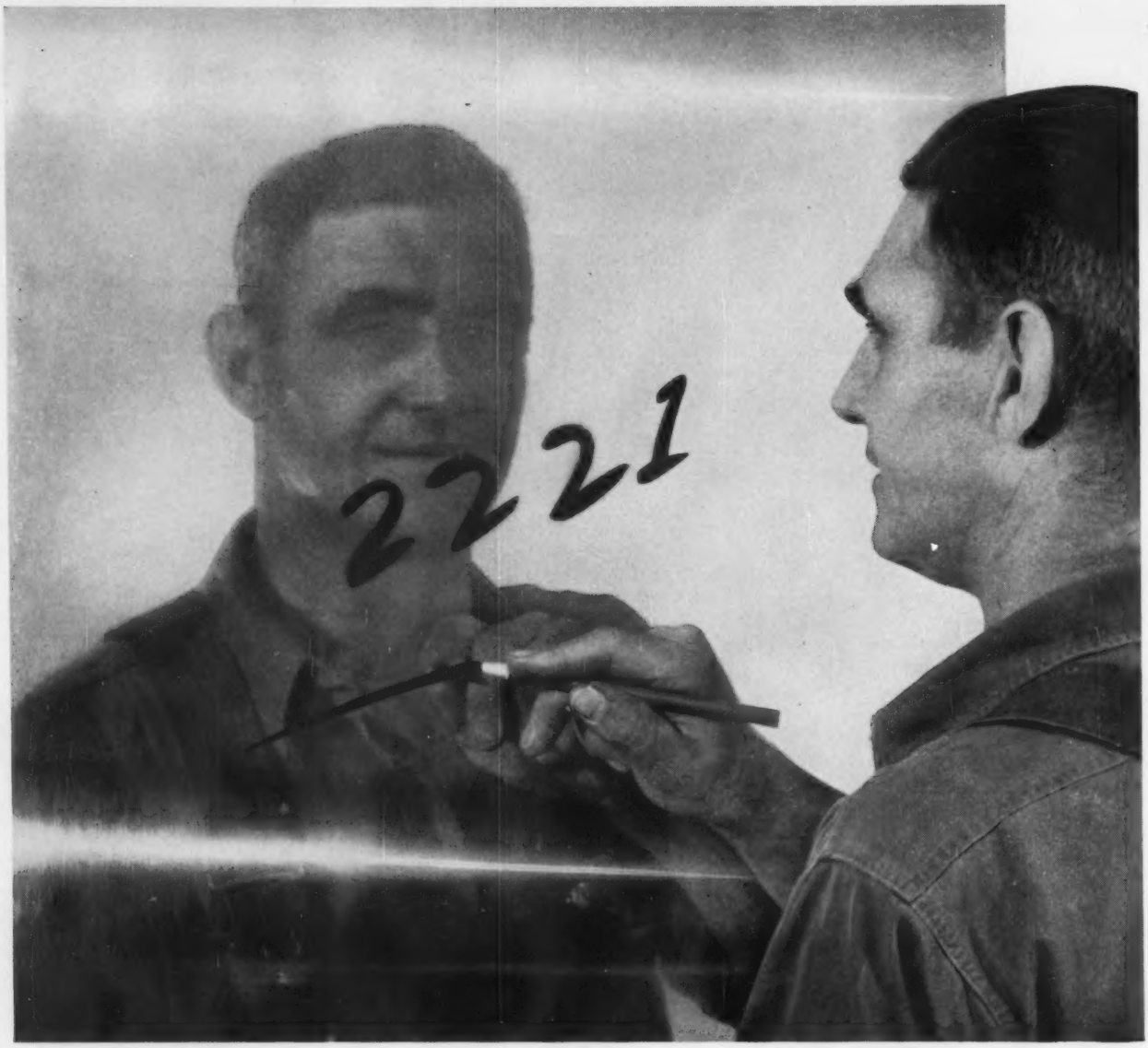
National Red AL Salt was developed by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., for use with various naphthols to develop shades of red, brown, scarlet, and yellow. Applicable to cotton and rayon piece goods, yarn, or stock, it has excellent lightfastness and withstands laundering and resin-finishing treatments. (B-34)

National Violet BN Salt was produced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., for printing and dyeing of cotton and rayon. With Naphthol AS-G, a yellow shade is produced, and varying shades of violet and bordeaux result from coupling with other bases. (B-35)

Orange RF Salt was announced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. Shades of yellow, orange, scarlet, and brown can be produced when coupled with the proper naphthol. Fastness characteristics are good to excellent. (B-36)

Sulfur Dyes

National Sulfur Brown CGCF was announced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., for producing reddish shades of tan. Medium dyeings on cotton are said to have good general fastness. (B-37)



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National Sulfur Direct Blue N was marketed by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. Dyeable in iron vessels; good to exeellent fastness. (B-38)

Azoic Dyes

National Naccogene Blue DGN Powder is a stabilized azoic dye developed by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. It is recommended for the production of blue shades in printing and is compatible with leuco ester types. Excellent to good fastness characteristics are claimed for the dye in the usual categories. (B-39)

Naccogene Yellow GS Powder was offered by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., for printing greenish shades of yellow on cotton and rayon. Good fastness characteristics and compatibility with leuco vat esters permit production of launderable prints on cellulosic fibers. (B-40)

Vats, Disperse, and Pigments

Vat Dyes

National Carbanthrene Yellow 3GFN Double Paste was developed by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. This dye reduces at 140° F. and dyes level at 120° F. Recommended for pad-jig or pressure dyeing. It exhibits excellent fastness characteristics. (B-41)

National Carbanthrene Olive C Paste was introduced by National Aniline Div., Allied Chemicals & Dye Corp., New York, N. Y. It gives yellowish-olive shades on cotton and is recommended for work clothes, uniforms, and other fabrics subject to hard usage. Suitable for use in all types of equipment, it is unaffected by the presence of metals in the dyebath. (B-42)

National Carbanthrene Brown ARN Double Paste was announced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. It produces bright brown shades on cotton and rayon that are fast to light and to most wet-processing operations. (B-43)

National Carbanthrene Brilliant Violet RK Double Paste was developed by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y. Bright bluish shades of violet are produced on cotton and rayon by conventional methods to give excellent lightfastness. (B-44)

National Carbanthrene Olive TR Paste was produced by National Aniline Div., Allied Chemical & Dye Corp., New York, N. Y., for dyeing cotton and rayon olive-gray shades by usual means. (B-45)

Calco Soluble Vat Brown BY is a leuco ester type offered by American Cyanamid Co., Bound Brook, N. J. It is recommended for printing and dyeing on cellulosic fibers and wool. Level dyeing, it is workable with other dyes requiring acid ageing in printing. (B-46)

Ahcovat Brown 4-R Double Paste was announced by Arnold, Hoffman & Co., Providence, R. I. It is fast to chlorine, light, and washing and is not affected by artificial light. (B-47)

Disperse Dyes

Celliton Fast Yellow 4RLA new CF was offered by General Dyestuff Corp., New York, N. Y., as particularly suited for dyeing the newer synthetics and acetate. (B-48)

Setacyl Yellow 3RN was added to the line of disperse colors made by Geigy Dyestuffs Div., Geigy Chemical Corp., New York, N. Y. Producing clear golden-yellow shades on acetate and nylon, the dyestuff has excellent lightfastness and good washfastness. It can be used on yarn or piece goods. (B-49)

Eastman Printing Blue 2B, produced by Tennessee Eastman Co., Kingsport, Tenn., is recommended for printing acetate fabrics. A clear bright blue, of excellent resistance to sublimation, and good wetfastness, it fixes easily on steaming to produce light to medium shades. (B-50)

Eastman Fast Yellow 2R-GLF was announced by Tennessee Eastman Co., Kingsport, Tenn., as an acetate dye of exceptional fastness to gas fading, light, washing, perspiration, and sublimation. (B-51)

Eastman Diazo Navy Blue RB was offered as particularly recommended for navy shades of excellent fastness to light, washing, perspiration, and sublimation. On viscose-acetate blends, the viscose is left white. (B-52)

Celanthrene Cerise B was announced by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., for dyeing Orlon, Dacron, nylon, and acetate. It is suitable for pink shades on Dacron, Orlon, and acetate and dyes nylon bluish-pink. It dyes with carriers, pressure, or the Thermosol method for dyeing Dacron and is said to give level shades of good fastness properties. (B-53)

Pigment Dyes

The Hiltones were introduced by Hilton-Davis Chemical Co. Div., Sterling Drug, Inc., Cincinnati, Ohio, for printing and pad-dyeing of cellulosic and synthetic fibers. (B-54)

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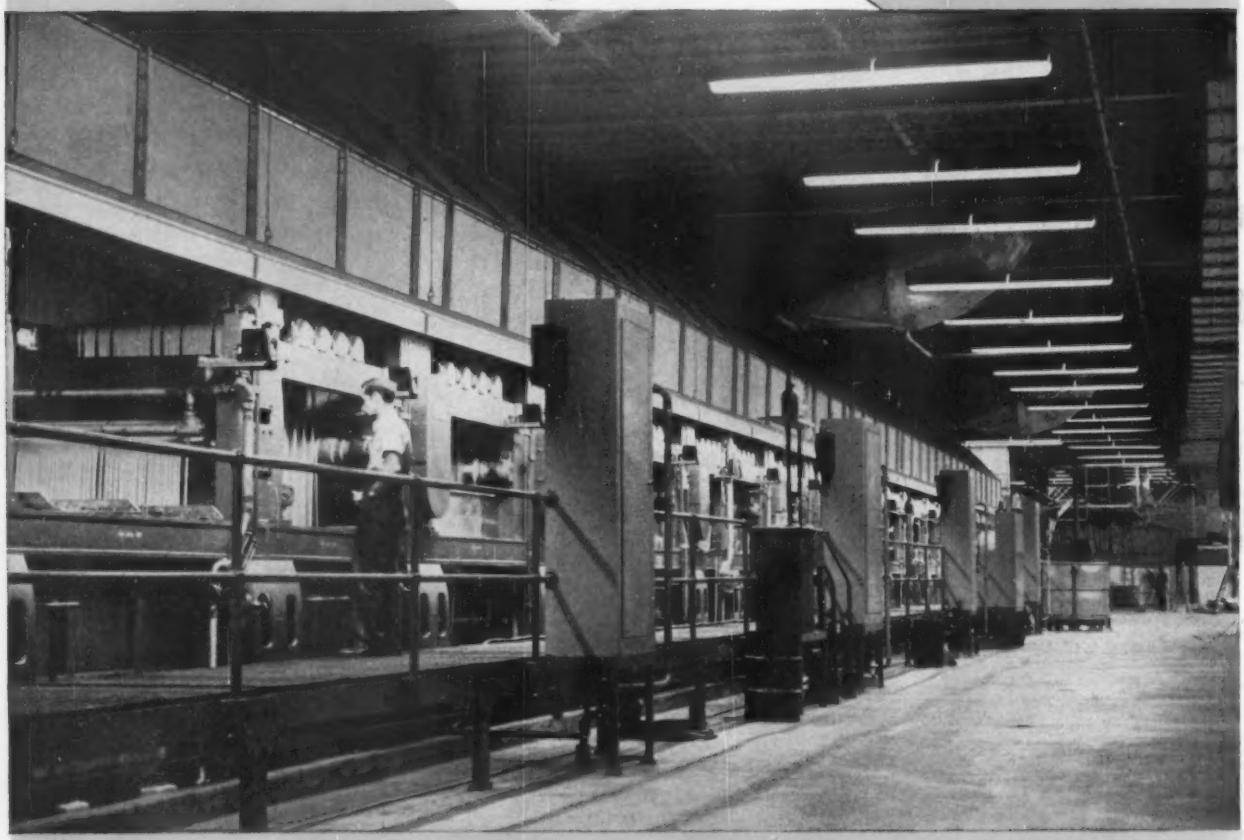

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Annual Review of New DYES *and* CHEMICALS

2 Finishes 2

U-2001 Ubatol was offered by Union Bay State Chemical Co., Cambridge, Mass., as a modified polystyrene emulsion for finishing fabrics, rugs, and carpets. Imparts nonfraying and nonsoiling properties. **(B-55)**

Ranedare R was announced by Metro-Atlantic Inc., Centredale, R. I., for use with resins on most fibers to produce durable water-repellent finishes. **(B-56)**

Nopcotex and **Nopcotex Paste R** were offered for napping woolens by Nopco Chemical Co., Harrison, N. J. **(B-57)**

Vinrez 101 and **Vinrez 202** were marketed by Stein, Hall & Co., New York, N. Y. Vinrez 101 is designed for rug binders and carpet underlays. Vinrez 202 is a bodying resin. **(B-58)**

Emboset B was developed by Metro-Atlantic Inc., Centredale, R. I., for the production of durable glazed finishes on cotton and wrinkle- and shrink-resistant finishes on rayon. **(B-59)**

Hartexsol C, offered by Hart Products Corp., New York, N. Y., is a humectant claimed to be more effective than glycerine in attracting moisture. **(B-60)**

Rhonite R-2, developed by Rohm & Haas Co., Philadelphia, Pa., is a liquid resin recommended for shrinkproofing of rayon, glazed finishes on cotton, and crisp finishes on synthetics. **(B-61)**

Resin UM Special was offered by American Cyanamid Co., New York, N. Y. Claimed to be more soluble and with less tendency to cake in containers, it is recommended for durable wrinkle-resistant finishes and glazed chintz effects. **(B-62)**

Resloom E-50, made by Monsanto Chemical Co., St. Louis, Mo., was announced as suitable where nonyellowing of whites is important. A durable, soft hand is produced that can be modified with common softeners. **(B-63)**

Dow Corning 105 Emulsion was announced by Dow Corning Corp., Midland, Mich., for producing durable water repellency. The finish obtained is said to simplify removal of grease spots. **(B-64)**

Silastic 132 was offered by Dow Corning Corp., Midland, Mich., as an improved silicone rubber for coating glass cloth and synthetics. **(B-65)**

Elvadex is an alkali-soluble vinyl-acetate copolymer introduced by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. It is recommended as an off-loom finish for dope-dyed acetate fabrics and as a sizing for synthetic fibers. **(B-66)**

CET was introduced by Onyx Oil & Chemical Co., Jersey City, N. J., for durable, stabilized finishes on cotton and rayon. **(B-67)**

Cyana Superset was announced by American Cyanamid Co., New York, N. Y. Cottons finished with the new resin are claimed to have excellent wrinkle recovery and low chlorine retention, with improved dyefastness on some types of dyestuffs. **(B-68)**

Firebuff is the name of a series of semidurable fire-resistant finishes announced by Treesdale Laboratories, Pittsburgh, Pa. The finishes are said to provide fire resistance in excess of legal requirements and can be modified with other finishes. **(B-69)**

Dri-Film, a new silicone water repellent, was announced by Silicone Products Dept., General Electric Co., Pittsfield, Mass. The finish is said to cause the fabric to shed beverages and many foodstuffs without staining. **(B-70)**

Cellosize, a hydroxyethyl cellulose in three viscosities, was offered by Chemicals Dept., Union Carbide International Co., New York, N. Y. Recommended for sizes, print pastes, and resin finishes. **(B-71)**

Hartuwet S, a stable silicone emulsion, was announced by Hart Products Corp., New York, N. Y. It is recommended as a durable water-repellent finish for rayon, cotton, nylon, acetate, wool, Dacron, and Orlon. It is applied in conventional equipment. **(B-72)**

Polyvinyl acetate emulsions that are water-resistant and produce clear films were announced by the Resin Div., National Starch Products Co., New York, N. Y. The emulsions are compatible with other common finishing materials. **(B-73)**

A noncongealing starch product suitable for sizing cellulosic and wool yarns was announced by National Starch Products, Inc., New York, N. Y. **(B-74)**

Burtonite #7 was offered by The Burtonite Co., Nutley, N. J., as a gum useful in sizes, finishes, and thickeners for printing pastes. It is claimed to work well at low pH ranges. **(B-75)**

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Annual Review of New DYES *and* CHEMICALS

3 Auxiliaries 3

Tetrines are chelating materials useful in processing where metal ions are present. Stable under heat and pressure, they prevent dulling of shades, or damage by iron in peroxide bleaching. F. H. Ross & Co., Charlotte, N. C. (B-76)

Keltex S was offered by Kelco Co., New York, N. Y., for use in printing pastes. Does not require buffers and gives good color yield and pattern definition. (B-77)

Modified fatty acids that possess good color and heat stability were offered by Emery Industries, Inc., Cincinnati, Ohio. Known as 994-R, 995-R, and 996-R, these materials make soaps that are liquid at room temperature at concentrations up to 16% and are suggested as bases for textile softeners. (B-78)

Zalon, said to provide textile materials with a very soft hand, was announced by Zimmerman Associates, Guilford College, N. C. It is a nonionic detergent that may be used as a wetting agent and dyeing assistant. (B-79)

ZELEC DX, a durable antistatic agent, was offered by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. Recommended for synthetics, it is claimed to resist removal by soap and water and to reduce attraction of dust and lint to fabrics treated with it. (B-80)

Maypon K-903 was announced by Maywood Chemical Works, Maywood, N. J. This protein-fatty acid condensation product is recommended by the manufacturer for application on cotton, rayon, nylon, and wool in the form of loose stock, yarn, and woven fabric, for good over-all efficiency in wetting, dyeing, scouring, milling, and spot removing. (B-81)

Triton AS-35 was announced by Rohm & Haas Co., Philadelphia, Pa., as a surfactant useful in kier boiling, peroxide bleaching, and scouring and as an aid in level dyeing. Stable to acids and alkalis, it is anionic and has good foaming and detergent characteristics. (B-82)

Vydul, a detergent for nylon-tricot fabrics to be applied in the dyebeck, was announced by Vikon Chemical Co., Cambridge, Mass. (B-83)

Penetron Conc. was added by Hart Products Corp., New York, N. Y., to its line of wetting agents. Penetron Conc. can be used as a dispersing agent, a wetting agent in desizing, and an additive to the dyebath. It can also be used prior to bleaching and kier boiling. (B-84)

Safaritone White WNOA and **Safaritone White C** were offered by Hilton-Davis Chemical Co. Div., Sterling Drug Co., Inc., Cincinnati, Ohio, as optical bleaching agents for synthetics and wool and for cellulosic fibers, respectively. (B-85)

Protolin SX was offered by Rohm & Haas Co., Philadelphia, Pa., for stripping wool, acetate, and nylon and for discharge of printing colors. It is cheaper than Protolin on an equivalent basis and is lower in price. (B-86)

A-chloroacetamide, a catalyst for urea-formaldehyde and similar resins, was developed by Chemical Development Corp., Danvers, Mass. It reacts with heat to produce a low pH suitable for curing resins. (B-87)

Perma Kleers are organic sequestrants developed by Refined Products Corp., Lyndhurst, N. J. Stable salts of polyamino carboxylic acids, they are excellent chelaters of iron, calcium, and other divalent metals. (B-88)

Scourclean X, announced by Richmond Oil, Soap and Chemical Co., Inc., Philadelphia, Pa., is said to contain cresols and other detergents. The product is stable to calcium and magnesium salts, acids, alkalis, and other common water conditions. (B-89)

Resyn 10K-25 is a polyvinyl-acetate emulsion that will form tough, water-resistant films. Introduced by National Starch Products, Inc., New York, N. Y. (B-90)

Versen-Ol was developed to control trivalent iron that may cause trouble in wet processing. Offered by Bersworth Chemical Co., Framingham, Mass., it is claimed to work over a wide pH range and to inactivate other heavy metals or alkaline earths after chelating trivalent iron in solutions. (B-91)

Nopco 1056-AR was developed by Nopco Chemical Co., Harrison, N. J., for lubrication of fine-denier yarns. It spreads quickly and has antistatic properties. (B-92)

Igepon TE-42, a tallow fatty acid product, was marketed by Antara Chemicals Div., General Dyestuff Corp., New York, N. Y. The product is stable to acid, alkali, and hard water and is effective for scouring animal, cellulosic, and synthetic fibers. It can also be used for kier-boiling cotton fabrics, soaping fast-color-dyed yarns and fabrics, and other processes where a detergent is necessary. It can also serve as a detergent-penetrant. (B-93)

A vinyl-sponge plastisol was announced by Watson-Standard Co., Pittsburgh, Pa., for coating or rug underlay. It is available in various densities for specific purposes. (B-94)

Swantex was announced by Swan-Finch Oil Corp., New York, N. Y., for wetting, dispersing, and scouring. It is low foaming and resistant to acids, alkalis, and calcium. (B-95)

Blankit 1A was offered by Badische A. C., Ludwigshafen, Germany, as an optical bleaching agent for cotton, wool, silk, and rayon. (B-96)

Nopco 1479-A was marketed by Nopco Chemical Co., Harrison, N. J., as a high-foaming detergent with ex-

CONTINUED ON PAGE 135

For more information, circle the B-number on Reader-Service post card.

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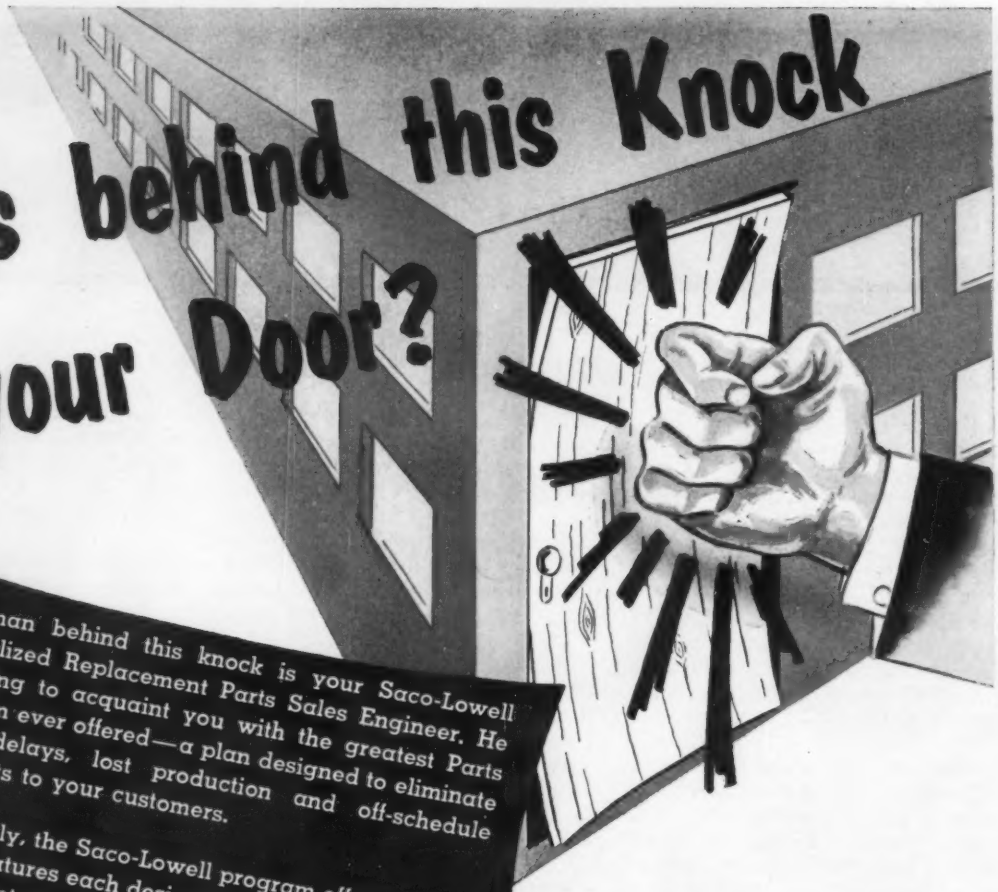

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POINTERS for SUPERVISORS

The Supervisor Must Grow With the Job

▶Why do some men make a successful transition from worker to supervisor and then fail when they are promoted again? This outline of an overseer's scope of operations and responsibilities will help define the areas where a bigger job calls for a bigger man.

By **W. C. WESTBROOK,** Consulting Editor, TEXTILE WORLD

BEING promoted from first-line supervisor to overseer carries certain hazards. The two jobs are different in many respects; and the newly promoted overseer has to make adjustments in his mental outlook, his reactions to management and workers, and his methods for getting the job done.

The hard-learned lessons of the past will stand him in good stead, but he must review much that he has learned and adapt it to his new responsibilities. Instead of being in the midst of production to see that his orders are carried out to the letter, he must now rely to a certain extent on his subordinates for direct action. His scope of operations and responsibilities have greatly increased; but his actual, direct contacts have narrowed.

No Buck-Passing

Except in unusual cases, the overseer must assume the responsibility of making decisions affecting the operation of his department. He is told what is expected of the department, but it is often left up to him how the desired goal is attained. As a first-line supervisor, he did his day's work and then turned the job over to the supervisor on the following shift. If things didn't turn out just right, there was always a question of just who was at fault and maybe some buck-passing. The overseer is held responsible for his department 24 hours a day and can't pass his troubles or problems on to anyone.

The overseer must become accustomed to working under pressure. There is the constant demand for more production, better quality, and lower costs. He can remember his years as first-line supervisor when he felt that if the jobloads were lightened, he could meet production goals. Now, as overseer, he must also be cost-conscious and try to reduce labor costs on one hand and improve quality and quantity on the other. He is caught in a squeeze between what he would like to do for his department and what he must do for the mill as a whole.

The overseer must learn to coordinate manpower, machines, and materials for the greatest utilization of these resources—not only for today but for next week and next year. He must anticipate the need of, and arrange for, the adequate training of understudies for all key jobs in the department, including his own. He must constantly be on the lookout for and correctly evaluate anything that will improve his department. He must realize that a change is not always an improvement and that something that works a miracle in one mill may wreak havoc in another.

The first-line supervisor is not greatly concerned with the doings of other departments or even with other sections of his own department, most of his contacts being made through his superiors. The overseer soon learns that he is conducting a business within a business; he is a customer of some departments in the mill and some of the other departments are his customers. In either event, he finds that cooperation is not a one-way street and that he must work with the overseers of the other departments.

He must also learn to use the various service departments and to realize that it is not a sign of weakness on his part to call on them for assistance.

The overseer must learn to rely on his first-line supervisors to keep him informed about many phases of the work. If he tries to keep up with all the minor details in his department, he will soon become bogged down with unessential information. It is important to have facts and figures available when they are needed; but to try to carry all the varied data required for a production department in his head will make it serve as a filing cabinet and crowd out any constructive thinking.

How To Choose Subordinates

In choosing his subordinates, the overseer should not try to pick them in "his own image." To have a group of men who see everything the same and who never have a difference of opinion is to have a group of yes-men who close their minds to new ideas and methods. Such a group will fall into a rut and stagnate in their own obsolescence.

On the other hand, it is not wise to have men working together who are radically different and altogether incompatible. Men who can agree on their objectives, even though they sometimes disagree on methods, can usually reach a satisfactory compromise; and each gains something by compromising.

The overseer must set the pace and serve as an example, not only for his first-line supervisors but for all his employees. It is a natural human trait to look up to and try to imitate others, especially those in prominent positions. As the head of the department, the overseer is constantly setting an example for others. Whether he likes it or not, the overseer lives in a glass house; and many of his words and actions are praised or criticized when they would not even be noticed if they came from a less conspicuous person.

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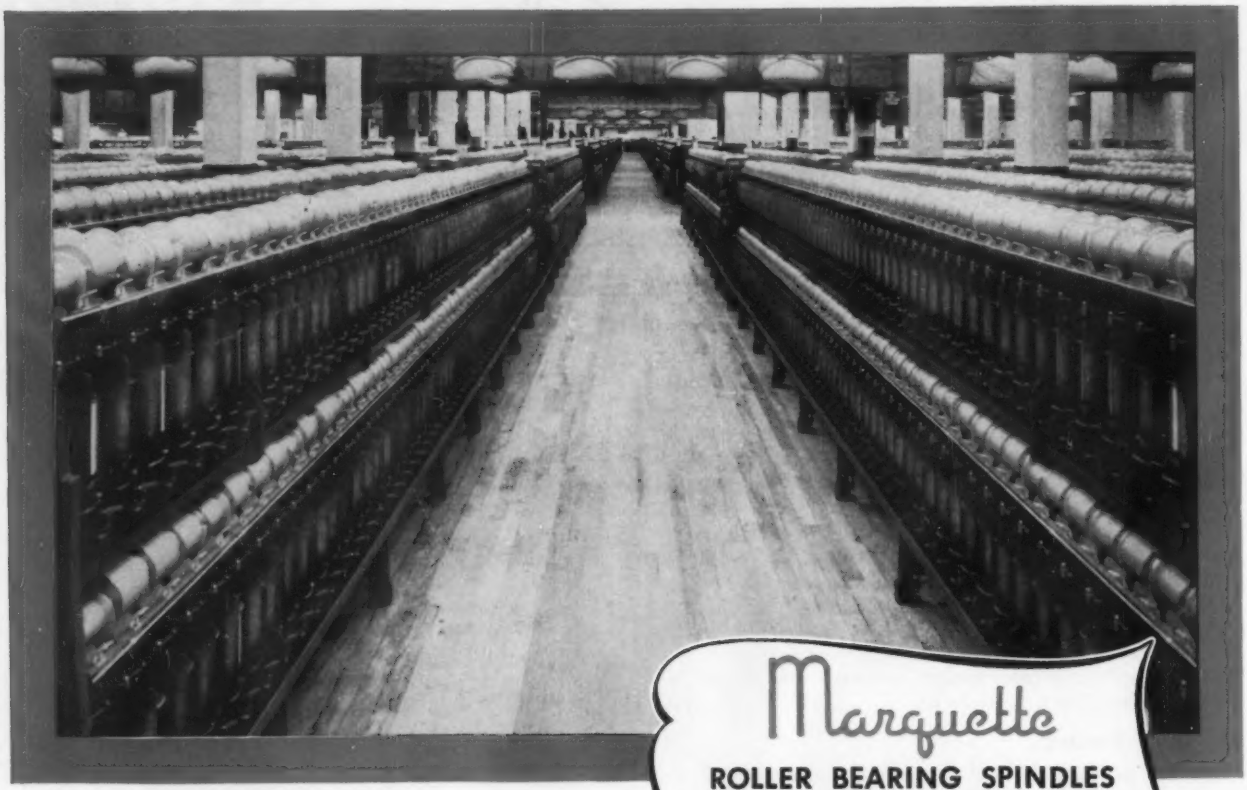

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Pointers

CONTINUED FROM PAGE 133

So the overseer must learn to practice tolerance. He must be tolerant in his daily contacts because many of his decisions will have far-reaching results. There will be employees with grievances, real or imaginary; and if a satisfactory solution is to be reached, the problem must be approached with patience and tact on the part of the overseer. Usually, by the time a misunderstanding is dumped into the lap of the overseer, the first-line supervisor and the employee with a grievance are so set in their opinions that it is hard to learn what's right and not just who's right.

There are times when the overseer must practice tolerance in his dealings with his superiors. Often, when a problem arises, it is taken for granted that everyone concerned is familiar with the facts and sees the problem in the same light. The tolerant person will gladly share his knowledge with others and then keep an open mind for anything that others may contribute.

The overseer should delegate certain responsibilities to his first-line supervisors and not encroach on them. For instance, if it is customary for the first-line supervisor to discharge an employee for cause, the overseer should not usurp this power even though he sees an employee commit an offense for which he is subject to discharge. All matters of reprimand or discipline should be handled directly by the first-line supervisor. When an employee carries a matter concerning his job to higher management, it should be taken under advisement and the decision passed back to him through his first-line supervisor.

One of the hardest things for an overseer to learn is to keep hands off routine personnel problems unless they are brought directly to him for solution. If he does any unsolicited handling of personnel problems, the employees will develop a tendency to approach him with all sorts of problems and bypass the first-line supervisor. This practice not only loads the overseer down with petty problems but also breaks down departmental discipline and cooperation.

Auxiliaries

CONTINUED FROM PAGE 131

cellent cleansing properties on wool. (B-97)

Rexodull CNY was announced by Emkay Chemical Co., Elizabeth, N. J. Applicable on pads or by exhausting from a dyebath, it is said to produce durable dullness on nylon tricots. (B-98)

Eulysin MP was developed by Badische A. G., Ludwigshafen, Germany, for use in helping to disperse and dissolve dyestuffs. (B-99)

Aerotex Accelerator MX was developed by American Cyanamid Co., New York, N. Y., for use with melamine resins. It improves resistance to chlorine yellowing. (B-100)

Collatone was introduced by Lehn & Fink Products Corp., Bloomfield, N. J., as a fungicide useful in retarding mildew in sizes and finishes. (B-101)

Wixyn 100, offered by Wica Chemicals, Charlotte, N. C., is a low-sudsing nonionic detergent said to be useful in scouring and print-soaping operations. (B-102)

Nylon No-Glow was introduced by Chemical Products Co., West Paterson, N. J., as an additive to synthetic resin finishes to retard combustion and eliminate afterglow. (B-103)

Chem ND was offered by Chemical Products Corp., West Paterson, N. J., as a detergent for synthetic fibers that is also useful as a dyeing assistant. (B-104)

Energetic W-100 is a nonionic detergent, 100% active, announced by Armour & Co., Chicago, Ill., as suitable for all wet-processing operations. (B-105)

Antistatic Agent 575 was marketed by E. F. Houghton & Co., Philadelphia, Pa., for the reduction of static in processing synthetic fibers. It is supplied as a water-soluble liquid that can be diluted with water for use with stock lubricants or processing aids. (B-106)

Cerfak 1400 was offered by E. F. Houghton & Co., Philadelphia, Pa., as a nonionic surfactant of high detergency and fast wetting-out action, suitable for most textile wet-processing operations. It is effective in small concentrations over a wide pH range. (B-107)

Rinsefree Tints, a line of colors used for natural and synthetic fibers, was announced by Charlotte Chemical Laboratories, Charlotte, N. C. The tints are said to be fugitive, even after steaming. (B-108)

Rosperse was offered as a new nonionic dyebath assistant by Richmond Oil, Soap and Chemical Co., Inc., Philadelphia, Pa. Recommended for full-fashioned and seamless-hosiery dyeing, it is said to improve unions between monofilament and multifilament yarns. (B-109)

Dexopal 99 was developed by Dexter Chemical Corp., New York, N. Y., for use in nylon-tricot dyeing machines to give level dyeing, keep grease and dirt emulsified, and keep foaming down. (B-110)

Nonic 300 was introduced by Sharples Chemicals, Inc., Philadelphia, Pa. A nonionic surfactant, it is claimed to be effective over a wide range of pH, water hardness, and temperature in detergent, emulsifying, and wetting-out operations. (B-111)

Monawet MO, a wetting agent, is the sodium salt of di-(2-ethylhexyl)-sulfosuccinic acid. Produced by Mona Industries, Inc., Paterson, N. J., it is recommended for all wetting-out dispersing operations. (B-112)

Round Table

CONTINUED FROM PAGE 10

be the rule rather than the exception.

When a reeling is taken from bobbins from the same frame, the roving is produced under identical conditions, although from different drawing sliver. However, when several reelings are taken from the same bobbin, any variation produced by the builder motion could cause lighter or heavier roving on the outside of the bobbins than the inside; this variation would exist on all bobbins.

On an analysis of variances on a roving frame, Mr. Rudnick reports that he found the variation within bobbins greater than among bobbins. However, this among-bobbin variation is not the total within-frame variation. Everybody agrees that the total within-frame variation should be larger than either of the other components.

time studies prove it!

15 man-hours saved for every 400 lbs. of lubricant you use!

Alemite cuts costs!

all the way from barrel to bearing ...in maintenance...repairs... down-time...

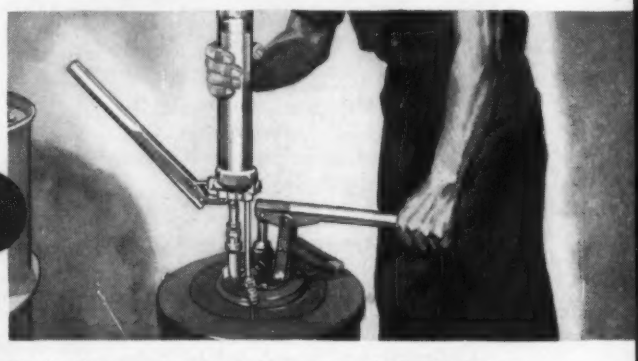
YOU SAVE...STEP BY STEP!

You start with a saving of 15 hours for every 400 pound drum of lubricant used. But that is only the beginning. Far more important is the saving in machine down-time, lubricant and costly bearing replacement. Because this combination of plant proved Alemite equipment insures better lubricated bearings—bearings lubricated only with "refinery fresh," protected lubricant!

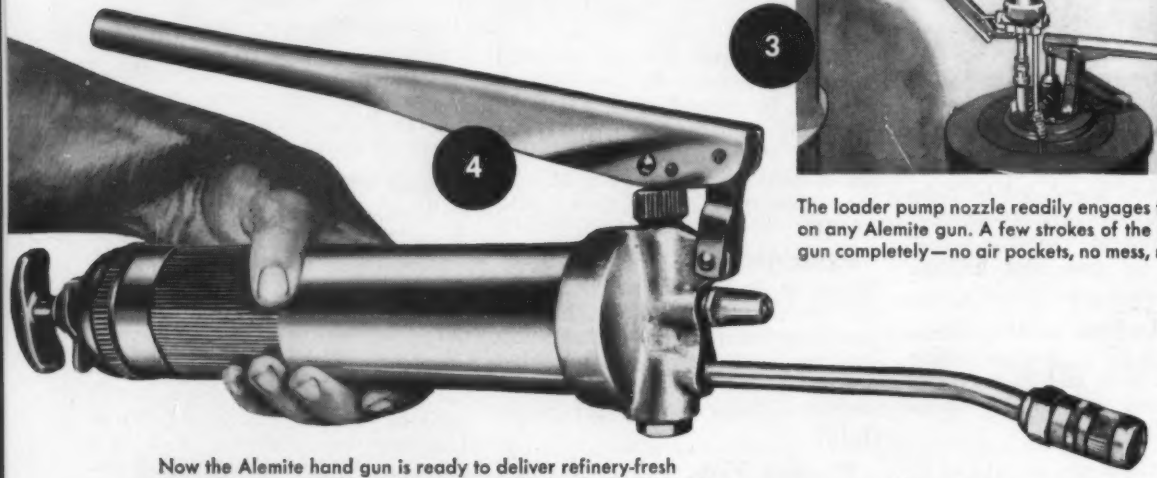
There is an Alemite Hand Gun with the capacity you need—from 8 ounces to 2 pounds. With the pressure you need—up to 15,000 pounds! And there is an Alemite Loader Pump designed to fit any standard size container that you normally use. Stationary models for 100 and 400 pound drums. Portable models for 25 and 35 lb. pails.

A drum of general-purpose lubricant arrives in the oil room. Clean, sealed, fresh from the refinery.

As soon as the drum is opened, an Alemite Loader Pump for hand guns is inserted, completely reseals the drum, protects against contamination.



The loader pump nozzle readily engages the loader fitting on any Alemite gun. A few strokes of the pump fills the gun completely—no air pockets, no mess, no waste!



Now the Alemite hand gun is ready to deliver refinery-fresh lubricant to any machine—lubricant completely free of dirt, grit, or abrasives—protected from barrel to bearing!

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Only Refinery Clean Lubricant Reaches Machines

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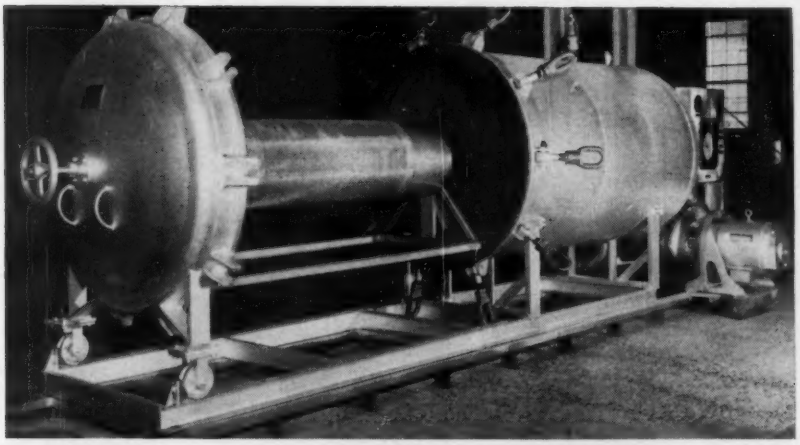


Pressure-Dyeing Machine

Burlington Engineering Co., Inc., Graham, N. C., has introduced a pressure-type machine now being used to boil off, bleach, or dye cloth made of natural and synthetic fibers. The cloth is processed on a perforated beam in the open width of the fabric.

A horizontal kier or pressure chamber made of stainless steel is fitted with a carriage that carries the perforated beam. A pump operating through suitable valves and connections can deliver up to 1,200 gals. per min. either from the beam through the cloth or vice versa.

Designed for pressures up to 50 lbs. psi.-ga. and temperatures up to 300° F., the machine is supplied with a control panel that incorporates control of temperature, rate of rise, direction, and duration of liquor flow with automatic reversal of flow.

A sample chamber that receives a proportionate flow of processing liquors carries a sample of the fabric being processed. It is arranged so that it may be cut off from circulation and opened to check the progress of the dyeing or used as a means of introducing more dye or chemicals during pressure dyeing cycles. **(T-1)**

2-Sec. Slasher Doff

The Flying Doff, a slasher take-up that transfers the yarn from a full to an empty beam in 2 secs., has been developed by Unistel Textile Machine Corp., Box 470, Port Chester, N. Y.

After the transfer is completed, the full beam is doffed at any time at the convenience of the operator.

In appearance, the slasher head is similar to a conventional head. The transfer motion cuts and refastens the yarn under tension from the full to the empty beam.

A feature of the slasher head is the saving in hard waste. A loom beam can be woven out to the last half turn on the beam barrel, and weaving efficiency is improved, with reduced loom stops, during the last 30 yds. of the warp. Since the slasher is stopped for a short time, warps are not overdried; and on color slashing, off shades are prevented.

After the full beam is doffing, the new beam, with the slasher in operation, is moved into the running position; and another empty beam is put into the second cradle ready for the transfer.

The slasher continues to operate while the new beam is moved into the regular running position. **(T-2)**

Spinning-Frame Light

The twin-beam yarn illuminator for spinning frames made by Meiners Optical Devices Ltd., London E.C.2, England, is available in the U. S. from McGlynn Hays Industries, Inc., 71 Rutgers St., Belleville, N. J. The unit fits on one end of a spinning frame and puts out a beam of light 3½ ins. in diameter to illuminate the yarn above the spindle. It is especially suited for frames spinning fine yarn numbers.

Units are available for cotton and wool frames; the intensity of light is maintained by a mirror at the opposite end of the frame. The mercury-vapor lamp has an estimated life of 2,000 hrs. **(T-3)**

Flat-Knitting Machine

An automatic flat-knitting machine for collars, cuffs, and garment sections is available from Ainslie Knitting Machine Co., Inc., 740 Grand St., Brooklyn, N. Y. Five- to 12-gauge machines are available in 60-in. widths.

Features: three needle racks, four independent yarn-carrier bars, and a ball-bearing short carriage. High- and low-butt needles are set in front and back beds, and the upper and lower cams are controllable for every course. Stitch tightness is controlled from three positions.

Other features: a paper-card control with counting chain, an electrical stop motion, and a counter clock. (T-4)

Stitch-Transfer Machine

A hand-operated stitch-transfer machine is available from Ainslie Knitting Machine Co., Inc., 740 Grand St., Brooklyn, N. Y. Stitches can be transferred between the front and back needle bed with all needles, high-butt only, low-butt only, or with selected needles. Five- to 12-gauge machines are available in 48-in. widths.

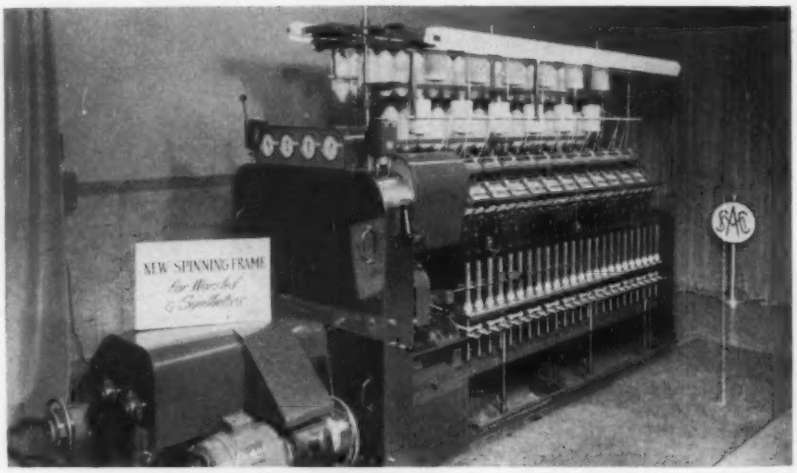
Features: two independent yarn-carrier bars and a short carriage with ball bearings.

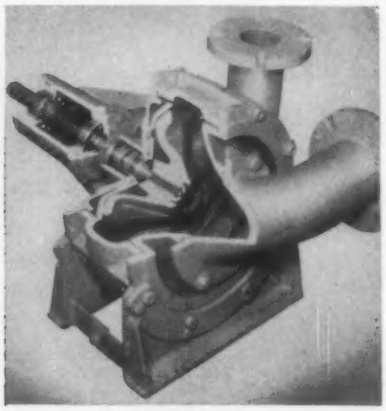
Cardigan, tubular, welt, and knop stitches can be knitted. The stitch adjuster has three positions, and the rack covers a full inch. A yarn stand, floor stand, comb, buckle, weights, and deckers are provided. (T-5)

SACM Worsted Frame

The SACM spinning frame for worsteds, synthetics, and blends has been introduced by Atkinson, Haserick & Co., Boston 6, Mass., for use in the American, French, or Bradford systems. Fibers from 1 to 12 ins. can be handled. Draft: up to 20.

The drafting system features a wide apron, which covers two spindle positions. The aprons can be changed without stopping the machine, and the spring-weighting system does not obstruct the view of the drafting element. Each side can be operated independently and on different yarn numbers. Tachometers indicate front-roll and spindle speed. (T-6)





Nonclogging Pump

A nonclogging pump that will pump rags, rope, yarn, and slushy stock without clogging has been developed by Western Machinery Co., 760 Folson St., San Francisco, Calif. The working principle is similar to an automobile fluid drive: a recessed impeller induces a swirl that produces pumping without passage through impeller vanes. The rotating fluid mass forms a buffer between the impeller and solid particles or chunks of material in the flow. A wide range of capacities is available. (T-7)

Fringe-Making Machine

Fringes up to 4½ ins. wide for garment and furniture trimmings can be produced at 200 stitches per minute on the crochet machine made by Charles Leek & Sons Ltd., Leek, Staffordshire, England. Eccentrics are used to control the motion of the needles, guide bars, and weft feeders.

The warp yarn is fed from a beam or bobbin creel at the base of the machine and is formed into a series of single-loop chains, which bind the looped fringe together to form the base fabric. The weft is laid across the bearded needles by a feeder, and the length of the feeder traverse determines the width of the fringe.

The outer edge of the fringe can be held by a claw-and-picker motion or by a draw thread. Drop wires are hung on all threads and actuate an electrical stop motion when a thread breaks.

Cut gears, Oilite bearings, and Oilite strip-cam lubrication are other features. (T-9)

Improved Guider Roll

A cradle roll 2¾ ins. in diameter for all types of air guiders features an extra-thick rubber covering that will provide longer service than can be expected from standard rolls of 2½-in. dia.

Available from Guider Roll & Service Co., Daytona Beach, Fla., the new roll has ¾ in. of rubber, which gives extra stock to work with when regrinding is necessary because of local wear on the cradle roll. (T-8)

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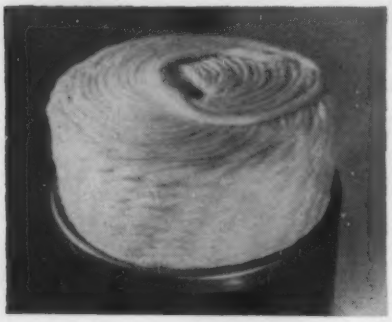


14-In. Coiler Change-Over

Fourteen-inch coilers for older five-, four,- and three-over-four-roll Saco-Lowell drawing frames are available as replacements from Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass. Advantages: longer runs between doffs and reduced direct-labor costs. Estimated savings go as high as 30% in direct labor and 50% in reworkable waste when 12-in. cans are replaced with 14-in. cans.

The new coiler uses an overcenter lay, in which the coil diameter is greater than the radius of the can. The larger lay produces a more-uniform pattern in the bottom of the can and eliminates the tangling of sliver. It prevents hard core of sliver at the top of the can; and pyramiding in the center of the can, which results in premature doffing, is avoided. **(T-10)**

Indicating Controller

A small indicating controller for controlling variables is available from The Foxboro Co., Foxboro, Mass.

Textile applications include:

1. Temperature (size-storage kettles, etc.)
2. Pressure (production steam to J-boxes, etc.)
3. Humidity (room humidity)
4. Liquid level (open storage tanks and kettles)

The Model 41-A air-jet-actuated controller is an improvement over the Model 41 and has either an on-off or throttling action.

The proportional unit is adjustable from 0.25 to 25% of the scale. **(T-11)**

Measure-Matic

The CRA Measure-Matic, an all-purpose fabric-measuring, -examining, and -rewinding machine, is available from Cutting Room Appliances Corp., 45 W. 25th St., New York 10, N. Y.

The machine provides a fast, accurate means of checking materials for damages, accurate yardages, double folding, inventory, splitting bolts, and packaging fabrics. It works from tube to tube, board to board, tube to board, and flat fold to tube or board.

Available widths: 48, 60, 72, 84, 96, and 108 ins., with any width up to the maximum handled. Double-fold attachment is available, as well as counters for registering in yards (eighths) or meters (tenths). **(T-12)**

Tension Control for Winder

A new vertical tension control for the No. 50 winder is available from Universal Winding Co., Box 1605, Providence 1, R. I. Tension and pressure can be adjusted independently, which provides better control of tension throughout the package.

The tension control is attached to the traverse-frame dog rod and suspended from a holder that allows seven adjustments. The tension is determined by the size and position of the weight on the tension lever. **(T-13)**

Waste Unit for Shirley Opener

A waste-collecting unit for Shirley Opener installations in mills without a vacuum removal system has been developed by Tweedales & Smalley Ltd. (U. S. representative: John Hetherington & Sons, Inc., Gastonia, N. C.). A 4x4-ft. open-bottom bag is suspended within a steel framework, and waste-laden air is blown from the waste compartment by a fan, and the air is dissipated through the bag. When the bag is full, the bottom plates are released and the waste is dumped into a collecting chamber for removal. **(T-14)**

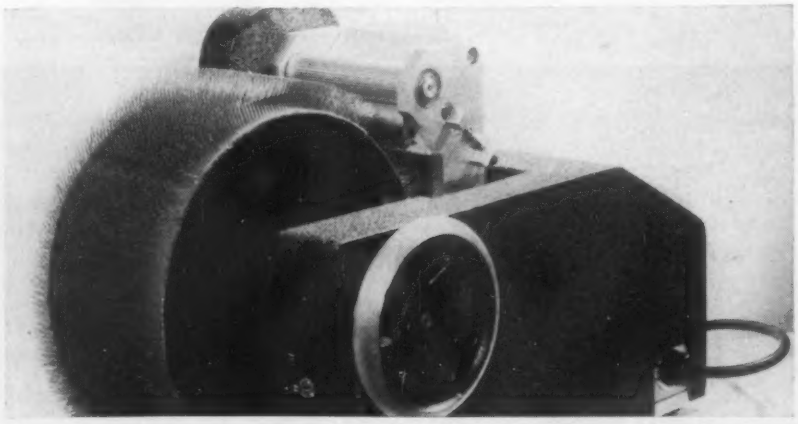
Laboratory Cotton Blender

A laboratory blender for cotton samples, developed by the U. S. Dept. of Agriculture, is available from Custom Scientific Instruments, Inc., 541 Devon St., Arlington, N. J.

Eight 10-gram samples can be made in an hour. The blending cylinder is covered with stripper-wire clothing.

The cotton is fed by an adjustable feed plate in combination with a fluted feed roll.

An extension plate can be adjusted for staple lengths over 1 in. The laboratory cotton-sample blender is motor driven. **(T-15)**



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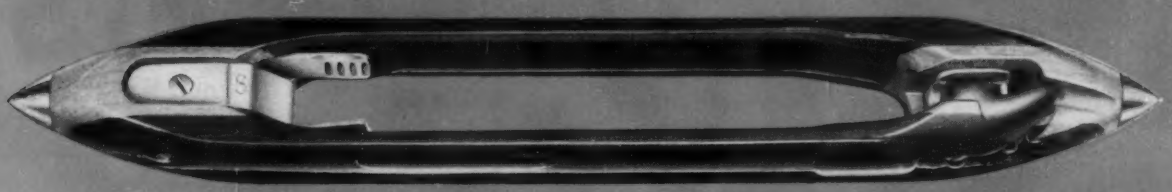

ANOTHER SOUTHERN EXCLUSIVE... *QUALITY CONTROL*

A few years ago the Southern Shuttles Division started a system of Statistical Quality Control. A new approach to an old problem, it is based on the premise that no two items can ever be exactly alike. This system sets up allowable tolerances. Quality is controlled through all the manufacturing processes rather than by inspection alone of the finished product.

Setting up this system for all incoming materials and manufacturing operations required establishing exacting specifications, permissible tolerances, retraining of inspectors and considerable statistical analysis.

After years of intensive work, this system is now functioning smoothly, and with pride and confidence Southern now identifies its products with the Quality Control symbol along with its well known Tempered and Stehide trade-marks. One more feature pioneered by Southern to give you greater value and dependability in shuttle performance.

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1-R-2

Transfer Machine

Production on the Paramark Model 3 transfer machine has started at Paramount Textile Machinery Co., 131 S. Wabash Ave., Chicago 3, Ill. Features: the simultaneous application of two dry transfers to hose, lower labor costs, faster delivery of orders, simplified operation, and better-quality transfers.

One operator places goods on small conveyor belts, which carry the hose and transfer paper to the irons. One or two perfect impressions are applied. Auxiliary conveyor units carry the goods to other operators, who attach rider tickets, band, and box in an assembly-line operation. Output: 2,400 doz. pairs of hose in an 8-hr. shift—about four times greater than for single-transfer machines. Goods are stacked for one complete operation.

Beginning operators reach high-volume production in a few days. Toe or heel transfer paper is quickly adjusted for different sizes, and both rolls can be replaced in less than 2 mins. (T-16)

Ultraviolet Lamp

A new Mineralight long-wave ultraviolet lamp with textile applications has been announced by Ultra-Violet Products, Inc., South Pasadena, Calif. When directed at certain substances, the invisible "black light" rays cause fluorescence and the substances radiate a different color. Variations that are close to invisible in ordinary white light stand out when exposed to ultraviolet rays.

The lamps are useful for (1) observing, analyzing, and comparing materials, weaves, and dye lots; (2) inspecting for flaws and variations; (3) invisible marking during manufacture; and (4) locating oil spots on fabrics and tracing them to their origin.

Mineralights are approved by Underwriters' Laboratories. A 6-v. adapter is provided for use with a portable battery. (T-17)

Automatic Dye Cover

Klauder Weldon Giles Machine Co., Adams Ave. and Leiper St., Philadelphia 24, Pa., has introduced an improved cover design for its paddle-wheel dyeing machine. The large front door is counterbalanced for automatic openings, which substantially ease the operator's work and eliminate the danger of handling a heavy cover over a hot dyebath. The cover is available on machines from 20 to 500 lbs. (T-18)

Needle-Pliering Projector

The Oerlikon needle-pliering projector, made by Oerlikon Machine Tool Works, Buehrle & Co., Zurich-Oerlikon, Switzerland, is used for testing and straightening spring-beard needles, welt hooks, and narrowing points.

The instrument does the work to within 0.01 mm. The needle silhouette is magnified 10 times, and a reference drawing is used.

The average hourly output of a female operator working a 8¾-hr. shift on 60-gauge needles is:

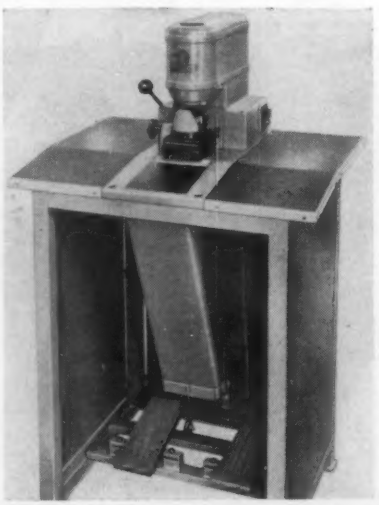
Spring-beard needles	120 to 150 pieces
Welt hooks	200 pieces
Narrowing points	220 pieces
Picot points	230 pieces

An operator can be trained in 8 to 10 days.

The machine is particularly suited to fine gauges.

A feature of the projector is that it's possible to plier the shank of the needle in two planes at right angles to each other. The needle beard can also be pliered with respect to shape and point opening at the same time. The position of the point in the eye is also checked in the other plane.

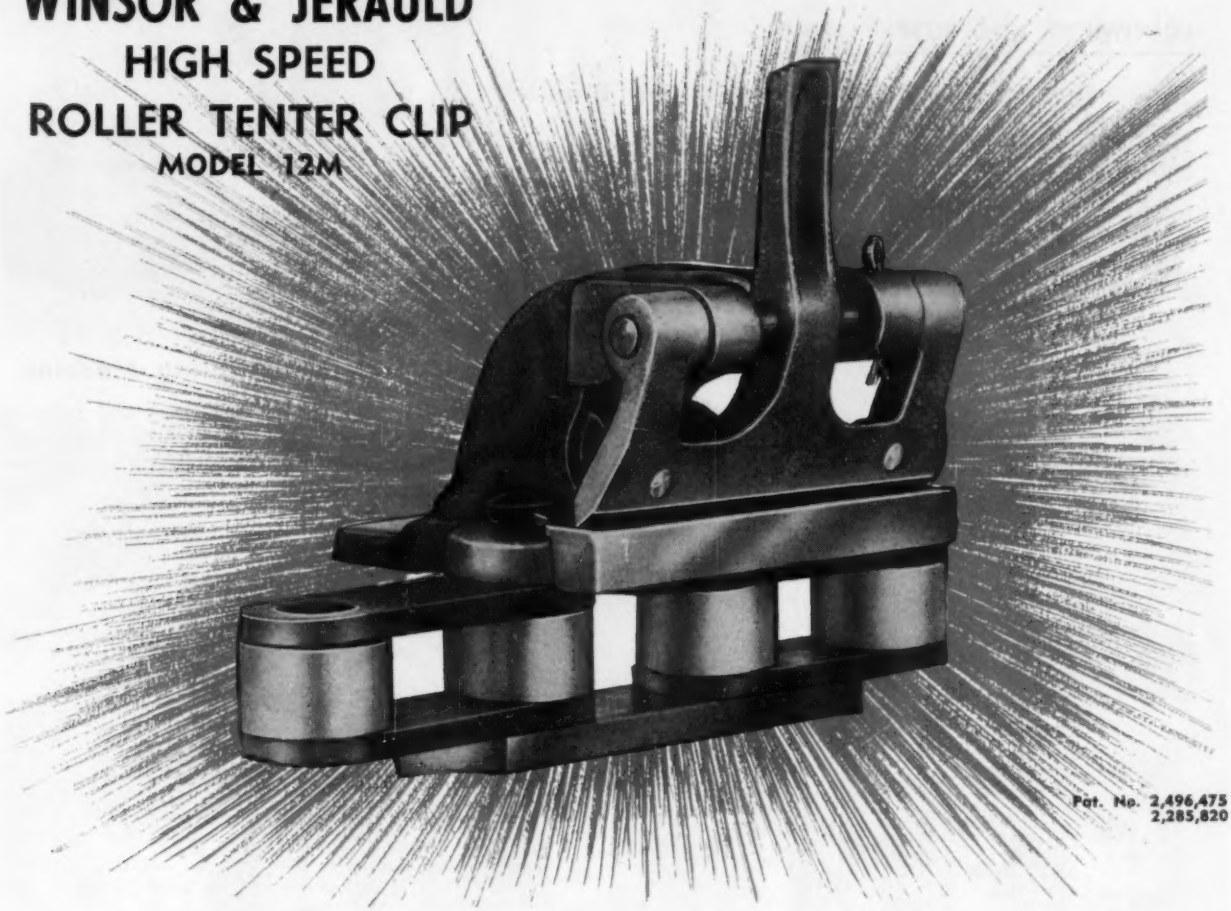
In addition, another feature of the projector is that the point of the beard is illuminated from below and the point becomes visible as a white line on the silhouette. (T-19)



WINSOR & JERAULD

HIGH SPEED ROLLER TENTER CLIP

MODEL 12M



Pat. No. 2,496,475
2,285,820

The model #12M Roller Type Automatic Tenter Clip has been designed and developed to lift the speed limitation and increase the cloth control in the operations of high speed tenter chains.

Essentially, the clip consists of a malleable iron main body, bronze jaw, and a full 2" pitch roller chain.

Particular attention is called to the fact that the bottom is a true roller chain with all parts made of oil-hardened alloy steel providing low friction operation and smooth operation at the sprockets. A patented interlocking feature on the bottom plate prevents the weaving action found in conventional roller chain.

The top is a duplicate of the famous Winsor and Jerauld #7 tenter clip, which has proven its superiority over the years. As with the Winsor and Jerauld #7 tenter clip, any type of controller can be furnished in addition to our new high speed "slow drop" controller. The entire top can quickly be removed by means of two screws and another substituted, or a pin plate be used.

Our staff is at your service without obligation and in addition, our Southern Division is fully equipped to check and repair tenter chains of all types. We look forward to serving you from our main plant in Providence, or from Charlotte.

Experts in Cloth Finishing Machinery

Winsor & Jerauld

MANUFACTURING COMPANY, INC.

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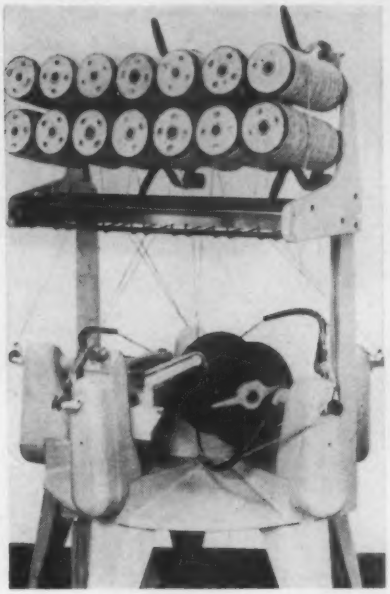


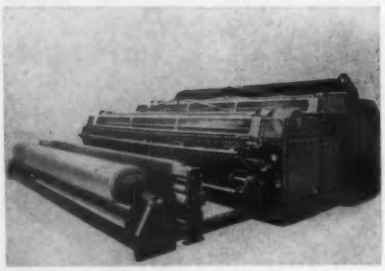
Five-Strand Braider

The D. B. braider, developed by Douglas Fraser & Sons Ltd., Arbroath, Scotland, produces five-strand braids of the type used in rope-soled shoes.

Up to 14 bobbins are placed in the creel above the machine (an auxiliary creel can be supplied), and five bows feed the plaiting threads over and under a rotating saddle.

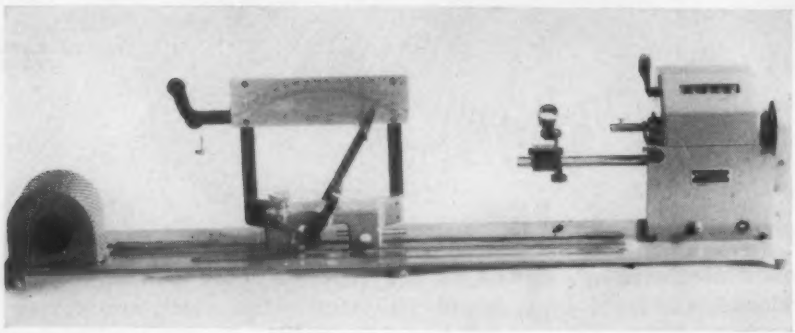
The braid roll holds 16 lbs., and one operator can tend up to 30 machines. Production varies with the plait, but the saddle speed is constant at 200 rpm. A plait weighing 31 grams per meter is produced at 201 meters per hour; the doffing sequence is 70 mins. and creeling is done without stopping the machine.

Stop motions operate when a roll is completed and when a thread breaks or bobbin runs empty. (T-20)



Carpet-Shearing Machine

The carpet-shearing and brushing machine manufactured by Kettling & Braun in Germany is available through Stellite American Corp., 60 E. 42nd St., New York 17, N. Y. The machine has a double shear, a brush, carpet-guide mechanism, cross brush attachment, nap-raising attachment, and a suction fiber-removal device. Production: 2¾ to 8¼ yds. per min. Widths: to 240 ins. (T-21)



Electric Twist Tester

An electric twist tester for all yarns but particularly suited for high-twist yarns, made by K. Zweigle, Reutlingen, Germany, is available from Stellite American Corp., 60 E. 42nd St., New York 17, N. Y. The yarn clamps are adjustable from 0 to 500mm., and the revolutions of the clamps are adjustable from 50 to 2,500 rpm. If the tester is started in the wrong direction, a switch reverses the direction and adjusts the counter back to zero. (T-22)

Nylon-Hose Plasticizer

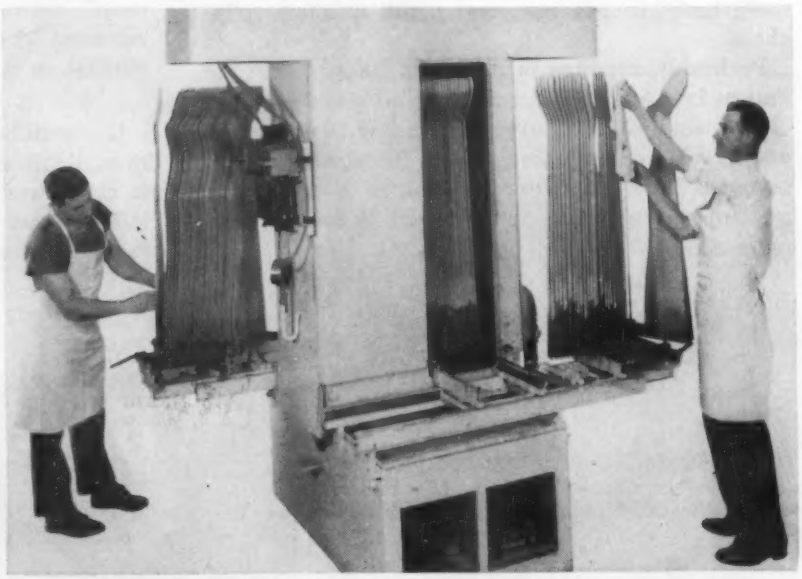
A plasticizer introduced by Girland Engineering Co. Ltd., Jennison St., Bulwell, Nottingham, England, is suitable for pre- and post-boarding of nylon hose and half-hose. Occupying a floor space of 6½x4½ ft., it is capable of preboarding 36 to 40 doz. pairs per hour with two operators.

The cabinet, made of steel plate, has a 36x56½x17½-in. interior.

Each side of the machine is fed by two carriages, which run along rails fitted to the base stand. Each carriage has ball bearings. A spring-loaded lever acts as a position locking device. Each carriage carries 24 forms hinged to stainless-steel plates, which allow the forms to fan out.

A set of cams operates the steam valves for predetermined periods. (T-23)

CONTINUED ON PAGE 217



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NEW DYES and CHEMICALS

Synthetic Detergent

Ultrawet 60L . . . is an organic alkyl aryl sulfonate said to possess good wetting, detergent, and dye-leveling properties. Supplied as a 60%-active solution, it is also useful in desizing and fulling and scouring operations. Atlantic Chemicals, S.A.B., Antwerp, Belgium. (D-1)

Cationic Softeners

Dextrol Research Softeners . . . #20, #21, #22, and RDA are claimed to resist yellowing at high temperatures and to provide an antistatic effect in addition to imparting a soft hand to fabrics. The finishes, which resist laundering and dry-cleaning to a moderate degree, may be applied in beck or pad. Compatible with most resins and gums, the four finishes vary only in pH and the hand they produce. Dexter Chemical Corp., New York, N. Y. (D-2)

Substantive Softener

Arko Finish CS . . . is a cationic softener designed for Orlon knitted fabrics. Applied in washers or becks, 5 to 10% of the product is claimed to give an extremely soft hand to yarns or fabrics. Works best at pH 3.3 to 3.5; not compatible with anionic products. Arkansas Co., Inc., Newark, N. J. (D-3)

Dyeing Assistant

Orlene . . . recommended for dyeing Orlon staple in pressure machines. Is claimed to aid level dyeing and prevent matting of the fiber. Suggested amount is 2 to 4% on the weight of the goods. Arkansas Co. Inc., Newark, N. J. (D-4)

Resin Catalyst

Catalyst AC-6 . . . is offered as a superior and more-economical catalyst for use with melamine-type resins such as Resloom M-80 and E-50 in the production of durable glazed finishes and wrinkle-resistant finishes. Monsanto Chemical Co., Dept. SA, Springfield, Mass. (D-5)

Pigment Printing Colors

Aulabrite 3000 series . . . water-dilutable pigment colors said to produce brilliant shades of superior fastness as a result of the development of new binders and dispersing agents. Can be used with 100 series clears for low-cost print pastes giving colors with good fastness to laundering and dry-cleaning. Aula Chemicals, Inc., Box 494, Elizabeth, N. J. (D-6)

Antistatic Finish

Antistat #93 . . . is a durable static eliminator for Dacron, nylon, and other synthetic fibers that prevents build-up of static by dissipating it in the air. Apex Chemical Co., 225 W. 34th St., New York, N. Y. (D-7)

Resin Modifier

Bondapex #1020 . . . is said to improve the hand of fabrics finished with resins by adding a full round touch when the product is added to the resin mix. Apex Chemical Co., 225 W. 34th St., New York, N. Y. (D-8)

Delustering Agent

Duradul . . . is offered in two grades for use with white or black fabrics to give a nonpowdering delustered finish. Apex Chemical Co., 225 W. 34th St., New York, N. Y. (D-9)

New PVA Emulsion

Nopco 1572-R . . . is offered by Nopco Chemical Co., Harrison, N. J., as a new polyvinyl-acetate emulsion for use in finishing textiles. (D-10)

Green Vat Dye

Ahcovat Soluble Green IB . . . is particularly recommended for printing pastes. Improved stability insures retention of color value even if print pastes have to be held over a week end. Good working and fastness properties are also claimed. Arnold, Hoffman & Co., Providence, R. I. (D-11)

Water-Repellent Finish

Sylmer . . . is a silicone-type water repellent that is applicable to all types of fabrics. Particularly suitable for upholstery materials, it is claimed to give a finish that resists water-borne stains and to be locally dry-cleanable without leaving rings. It is also claimed to give repellency to woolens. Dow Corning Corp., Midland, Mich. (D-12)

Silicone WATER REPELLENTS Recommended for Cottons

Preliminary work in the laboratory and in a number of plants has shown that silicone resins high in methyl hydrogen polysiloxane are well adapted to the production of water-repellent finishes on cotton.

Application Is Simple

Conventional equipment found in most mills is adequate for applying Hydro-Pruf, made by Arkansas Co., Newark, N. J. As with most resins, Hydro-Pruf requires curing at a temperature of 320° F. for 5 to 8 mins.

A basic formula to be padded on the goods would be 4 to 6% of the resin at a wet pickup of 75 to 80%, followed by drying and curing. Catalysts recommended for cotton are included in the mix.

Launderability Is Important

The inclusion of methylated melamine-formaldehyde resins may be desirable for some finishes, and there are indications that they may help durability of the finish to laundering. The amount of silicone resin necessary to get good results will vary with the fabric, but in general a deposit of from 0.75 to 1.25% is satisfactory.

On cotton goods, launderability is more important than dry-cleaning durability.

Tests of Hydro-Pruf-treated cottons washed in 0.5% soap for 90 mins. at 160° F. show spray ratings of 70. Laundry practice of using fluorides as anti-chlors will reduce the rating. Spray ratings of 80 were retained after tumbling in Varsol for 1 hr. at room temperature.

Cottons treated with Hydro-Pruf have shown increased abrasion resistance on the Stoll flex abrasion tester. There is some loss of strength, probably due to the high curing temperature; but it is not excessive.

Based on a paper presented by Alton A. Cook at the Third Chemical Finishing Conference, Washington, D. C.

Have You Modernized Your Plant but Forgotten Your Fiber Lubricant?

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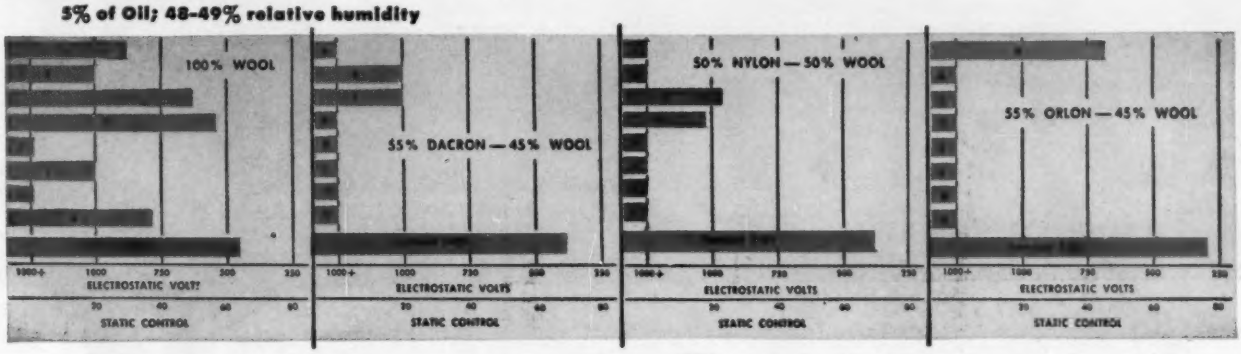

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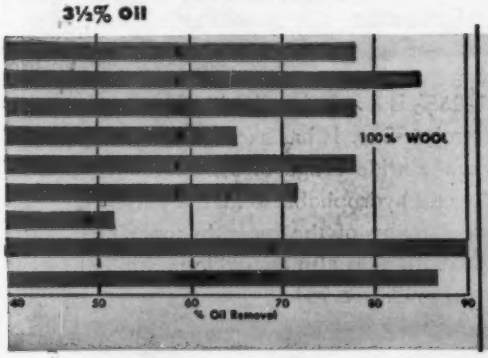
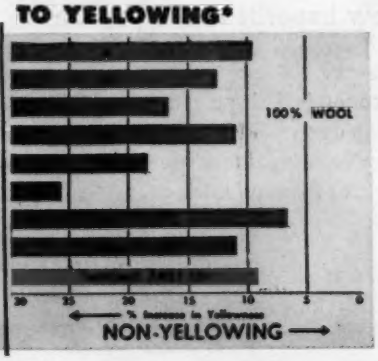


RESISTANCE TO YELLOWING*



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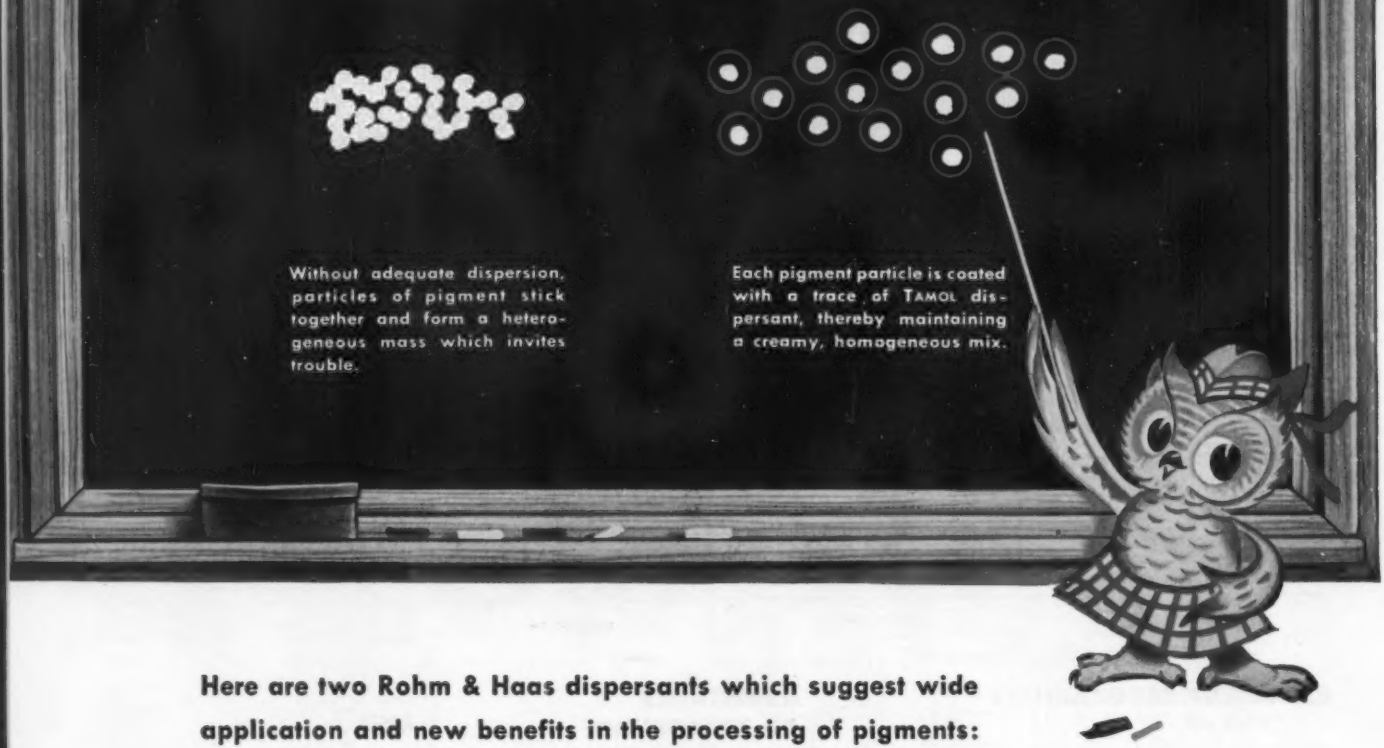
PIGMENT PARTICLES WON'T AGGLOMERATE WHEN TAMOL GETS INTO THE ACT


Without adequate dispersion, particles of pigment stick together and form a heterogeneous mass which invites trouble.
Each pigment particle is coated with a trace of TAMOL dispersant, thereby maintaining a creamy, homogeneous mix.

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TAMOL N is a particularly fine dispersant for carbon black. It is a highly efficient dispersant in print pastes, giving improved printing properties. TAMOL N is available in water solution, designated TAMOL L.

TAMOL 731-25% is a colorless liquid dispersant which is electrolyte-free. It has excellent dispersing activity on a wide range of solids. It will effectively disperse hydrophobic solids like carbon black, and also many of the more hydrophilic inorganic pigments. It is also available in 100% active dry form as TAMOL 731.

TAMOL N and TAMOL 731-25% are both available in commercial quantities.

For complete technical information, write to your nearest Rohm & Haas office.

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QUESTIONS and ANSWERS

▶ **TEXTILE WORLD'S editors are at your service to help solve your problems in yarn manufacture, weaving, knitting, dyeing, finishing, or other textile operations. If you have a technical problem bothering you, send it along to the Editor, Questions and Answers, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.**

Use 4.25 TM for 20s to 30s Warp Yarns

Technical Editor:

The standard twist multipliers established and used in our mill appear to be too high for the stock used and the type of yarn made. We make 20s to 30s carded warp yarn from Middling to Strict Low Middling 1 to 1⅛-in. cotton. What has been the experience of other mills with twist multipliers on similar yarn and cotton? (9855)

Many mills established standard twist multipliers years ago, and some have retained them up to the present time. Improvements in preparatory processes and better methods of draft control will often permit a reduction in twist without sacrificing any required yarn strength or increasing end breakage. Excessive twist reduces yarn strength, elasticity, and frame production; and it increases yarn cost.

Twist is inserted in yarn to reduce the slippage of the enclosed fibers in contact with each other. Excessive twist causes a shearing action by the pressure exerted on the fibers. Maximum yarn strength is reached when sufficient twist is inserted to reduce this fiber slippage to a minimum without causing this shearing action from excessive twist.

The Government has made many tests on the effect of twist on the strength of 20s and 30s warp yarn made from 1-in. Middling cotton. The maximum skein strengths of these yarns were reached with a twist multiplier of approximately 4.25. From 4.25 to 5.00 TM there was a slight loss in yarn strength. Above 5 TM, the loss was proportionately greater.

The preference in many mills seems to be between 4.50 and 4.75 TM for this stock and yarn numbers. This increase over the 4.25 TM allows a certain margin of safety in case of possible variations in stock or operating conditions.

Uncut Fibers May Break At Drawing Frame

Technical Editor:

Our staple cutter did not work 100% during the cutting of a batch of 1½-in. staple rayon. We figure we have about 2% of very long staple mixed with the correct staple. What processing troubles, if any, are we likely to run into; and can we avoid them? (9848)

The extent of the trouble depends a lot on the extreme length of the fibers and on the denier of the fiber. If the denier is fine, this small amount of fiber will be broken in processing. The drawing frame is the most likely place for this breakage to occur.

You can try breaking these long fibers on the drawing frame by using metallic top rolls and putting additional weight on the top rolls.

If the fiber is a coarse denier and the fibers are extra long, you will get trouble right through to spooling.

Watch Heat-Setting To Get Stability in Blends

Technical Editor:

What methods are used to get dimensional stability in fabrics made from synthetic yarns and blends? (9854)

Synthetic yarns such as nylon, Dacron, and Orlon are generally set by

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"I'd like some news about men who are wealthy bachelors in this neighborhood!"

heating the fabrics to just under the fusing point at the width and length desired for the end use. It is necessary to go to a somewhat higher temperature than the fabric will attain in future processing or use.

The percentage of fiber in blends other than true synthetics will determine the method to be used. Where there is a relatively large percentage of viscose, resins will be required in finishing to stabilize the fabric. Some form of the newer cellulose-reactant products may be more desirable.

Acetate fiber is generally less susceptible to extreme shrinkage; and if the synthetic fibers predominate, careful heat-setting with consideration for the lower fusion point of the acetate fibers will accomplish the purpose.

Heat-setting is generally done today on the dry fabric, with dry heat. Older methods employing steam or boiling water are less effective.

Yarn-Contraction Figures Are From TW Chart

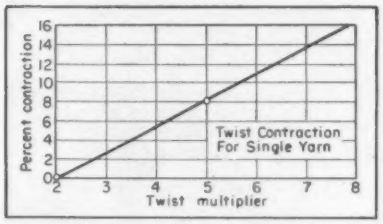
Technical Editor:

How do you arrive at the figures 5 and 2.67 in the rule

$$\% \text{ contraction} = 2.67 \frac{\text{tpi}}{\sqrt{N}} - 5,$$

which appeared in TEXTILE WORLD, July, 1954, p. 148? (9827)

The 2.67 and 5 are obtained from analyzing the graph in the TEXTILE WORLD Mid-November, 1953, issue according to straight-line law procedure.



General law $y = mx + b$

Graph:
$8 = 5m + b$
$0 = 2m + b$ Subtract
$8 = 3m$ Difference

Slope $m = \frac{8}{3} = 2.67$

Find $b = 8 - 5 \times 2.67 = -5.35$

Find $b = 0 - 2 \times 2.67 = -5.34$

$y = mx + b$

$y = 2.67x + -5.34$

$\% \text{ Contraction} = 2.67 \frac{tpi}{\sqrt{N}} - 5.34$

$= 2.67 \times \text{Tw. Mult.} - 5.34$

In actual practice the yarns contract slightly more than when the factor 5.34 is used; so the figure 5 was adopted.

Use This Formula For 39s Combed Cotton

Technical Editor:

What should we use to size 39s combed Pima cotton for the best weaving conditions? (9852)

The following size formula is suitable to give good weaving properties on 136x60 construction:

123 lbs. potato starch
6 lbs. compound
3 lbs. wax
3 lbs. enzyme

Add water to the starch to make 118 gals. of size. Agitate the mixture, preferably by blowing air through it, while it is brought to the boil. Don't add the other ingredients until the starch and water get to the boil.

Cook the mixture for 1 hr., 45 mins.

Irrigated Cottons Nep More Than Rain-Grown Cottons

Technical Editor:

With the same Micronaire value, what are the American cottons that cause more neps, and where do they grow? What is your opinion about differential dyeing for maturity? (9851)

Irrigated types of American cotton have a greater tendency to nep than rain-grown cotton. Improved methods and greater care in speeds and settings have overcome a large part of the prejudice against this type of cotton, and mills are running it successfully alone or with blends of rain-grown cotton.

Variations in fiber maturity do affect the evenness of applied dyes in many cases. It is the opinion of some mill men that treatment before dyeing or changes in the dyebath can overcome this difficulty.

As fiber maturity, as well as fiber fineness, will vary from bale to bale in the same lot of cotton of the same variety from the same location, it is unreasonable to expect absolute uniformity in maturity selection or maintenance. Differential dyeing or some other treatment may be the cure when this symptom of variations does appear.

Weave-Room Lighting Gives 50 Foot-Candles

Technical Editor:

We are building a new 100-loom weave room. What lamps should we use to get the best results, and how should they be installed? The distance from the floor to the roof supports is 16 ft. (9847)

Use three 40-w. luminaires with rapid-start ballast. The lamps should be standard cool white. The reflectors should be open end of the semidirect type, giving at least a 10% upward component.

The luminaires should be constructed for continuous mounting. Lengths of 8 ft. with six 40-w. lamps would be most economical. These lamps would be unaffected by loom vibration.

The standard cool white lamp is a compromise between color and light output. The standard cool white lamp has a bulb color similar to an incandescent bulb. The daylight lamp is rather blue, and the standard warm white is almost red.

There is about 10% more lumen output with the standard cool white lamps, color matching is better, and the room appearance is improved.

Install the luminaires in continuous rows spaced 12 ft. apart, beginning 4 to 6 ft. from the wall. The rows should be perpendicular to the rows of looms. Mount the luminaires 12 ft. from the floor.

This layout will give 50 foot-candles. A reflector-cleaning program will increase this intensity. If a dark-colored cloth is woven, reduce the spacing and lower the mounting height a foot or two.

Repair Drop Wires Save Time, Trouble

Technical Editor:

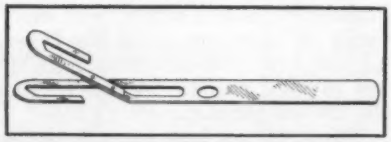
We have trouble with broken drop wires on our four-bank-stop-motion looms. We can replace some by working them through other drop wires, but those in the center of the warp can only be replaced by breaking the drop wire. This broken wire damages warp threads. Any suggestions? (9846)

A repair drop wire was developed a few years ago to replace broken drop wires that were causing trouble. The wires are made for mechanical and electrical stop motions.

The broken drop wire is removed, and the repair one is slipped on the rod in its place.

The repair wire has an extra top part that is riveted to the regular top near the cut section.

These repair drop wires are obtained from regular drop-wire suppliers.



REPAIR DROP WIRE has a double top part that is cut to allow the wire to slip on the stop-motion rod.

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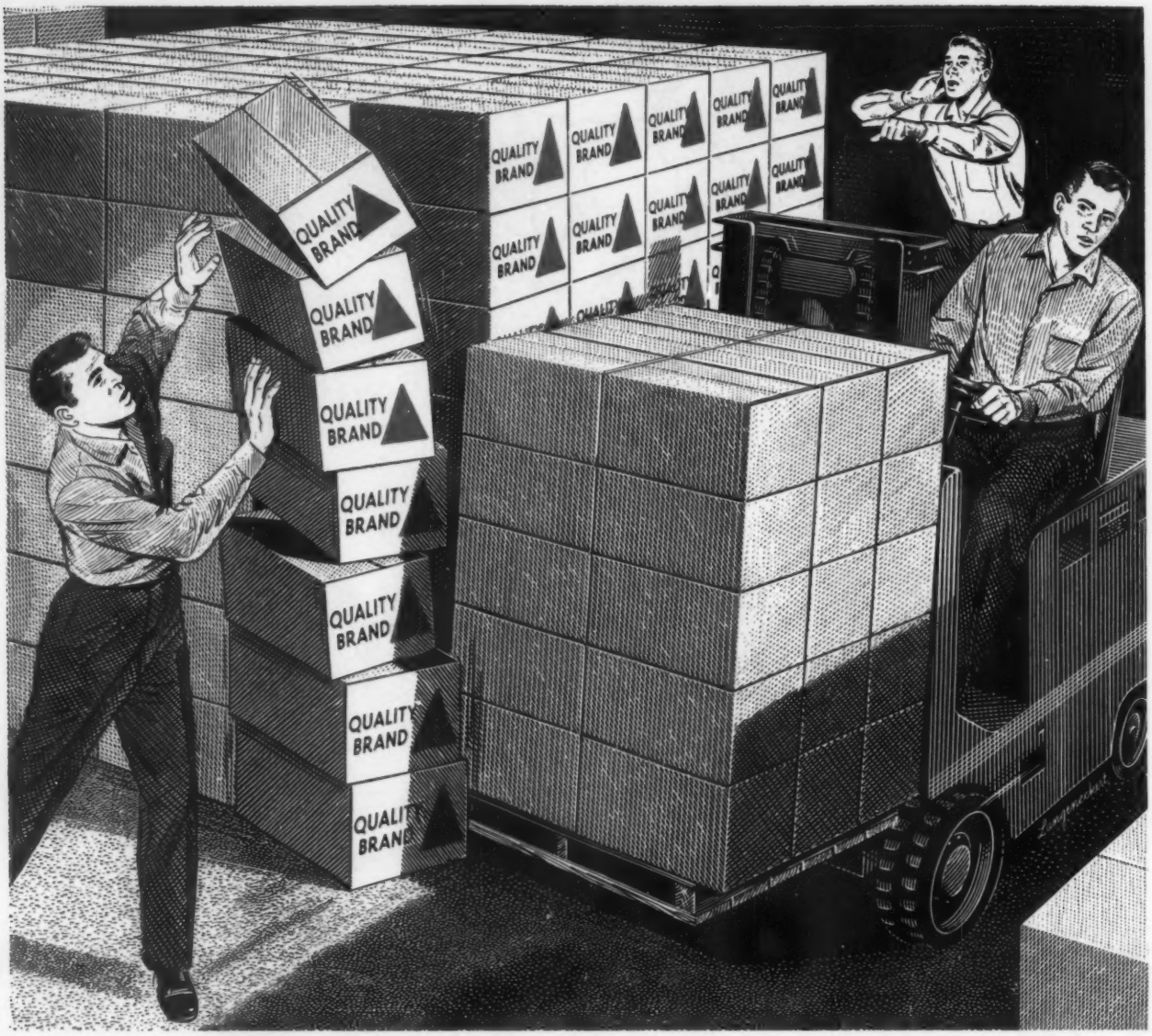

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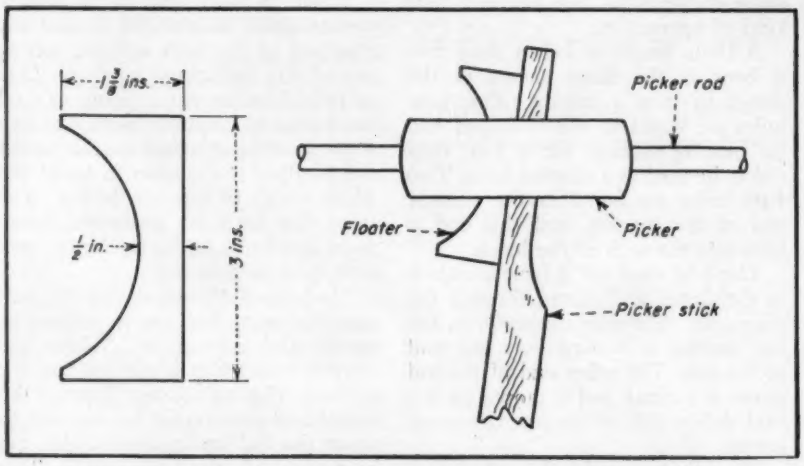
KINKS and SHORT-CUTS

Stop Picker-Stick Wear With Old Sweep Sticks



THE FLOATER absorbs all wear normally given the picker stick. The picker, floater, and picker stick fit together with a small amount of clearance between them.

On our drop-box looms we had trouble with picker sticks being worn out by the picker. The load of the shuttle as the shuttle was picked out of the shuttle box and the pressure of the picker stick on the picker at the end of the picker-stick stroke wore a notch in the front of the picker stick.

Results of the worn picker stick were bad shuttle travel, shuttles flying out of the loom, and jammed shuttle boxes. To prevent these conditions, we had to replace our picker sticks frequently.

Now we have stopped this excessive picker-stick wear by using homemade floaters between the pickers and the front of the picker sticks. The floaters are made from discarded rubber-composition sweep sticks.

A section of the sweep stick is cut 3 ins. long and 1⅜ ins. wide. This rectangular piece is ground down to the thickness of the picker stick, which is approximately ¾ in. A portion of the 3-in. length is cut out to leave a concave section ½ in. wide at the center.

The back of a new or unworn picker stick is cut off at the end so that the floater will fit between the front of the picker stick and the picker. The flat surface of the floater is against the picker stick.

This floater costs nothing except the labor because the sweep sticks will be thrown away anyway. Picker sticks and pickers now last much longer, there's less picker-stick breakage from hanging shuttle boxes, and we have truer shuttle flight. *Stephen Vernarec, Wallington, N. J.*

[Be sure to cut the stick on the back and not on the front. If the stick is cut on the front, it will split quickly.—EDITOR]

Film Spools Make Excellent Tool Hangers

FILM SPOOLS are used as holders for hand tools. These holders will not bend under a heavy load, and the flanges at the ends keep the tools from falling off.

Maintenance workbenches can be improved by a vertical board running along the back edges. The board acts as a barrier to prevent tools and parts from dropping down the bench back; and if the board is made about 8 ins. high, it forms a foundation for hand-tool racks and hangers.

One form of tool hanger is a common nail driven into the wooden backboard. However, the nails are dangerous and often cause cuts. Nails tend to bend under heavy loads, and tools held only by the small nail head have a tendency to drop off.

Excellent tool hangers can be made from old photographic-film spools. These spools can be secured to the backboard of the bench by a single long wood screw passing through the center. The spools form rigid tool hangers, and the flange on the end prevents the tools from shaking off. *C. T. Bower, London, England*

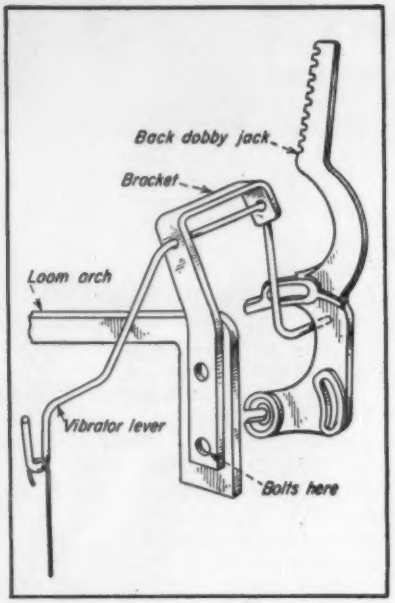
How To Solder In Close Places

Sometimes it is necessary to solder in a place where a soldering iron cannot be used. In such a place, the soldering job can be done by the following method:

Form a powder by filing some low-melting-point solder, and mix this powder with melted paste flux. Stir the mixture well and apply it with a feather to the spot where soldering is required. At first, the mixture will be very penetrating; but it will soon set.

Place an extension made from a piece of copper pipe over the end of an ordinary blowtorch; and with the hot air coming from the extension, heat the solder-flux mixture. The solder will soon melt and make a well-soldered joint. *W. E. Warner, Essex, England*

Box-Motion Connectors Require Little Care



BACK DOBBY JACK moves the crank end of the vibrator lever mounted in the bracket bolted to the loom arch. The other end of the vibrator raises and lowers the box-motion connector.

The box-motion connectors on older 2x1 box-motion dobby silk looms are located in a bad place to be oiled properly. A series of straps, wires, and levers connect the back dobby jack to the box-motion vibrator. One of the levers is pivoted on the harness-sheave shaft directly over the warp; and this arrangement makes oiling a delicate operation because oil drops on the warp and, consequently, the lever is seldom oiled. The result is that the levers must be replaced frequently because of excessive wear.

In the mill where I work, we have made a simpler and better connection to control the box motion. The box motion is still controlled from the dobby pattern chain and the back dobby jack, but we have removed all other connections and added a new kind of connection.

A 10-in. length of ¾x¾-in. strap iron is bent in the shape shown in the sketch to form a bracket. Two ¾-in. holes are bored in the U-shaped end for bearing surfaces for a ¾-in. steel rod to be used as a vibrator lever. Two ¼-in. holes are bored in the straight end of the bracket, and this end is bolted to the arch of the loom.

The ¾-in. steel rod is bent as shown in the sketch and placed through the strap iron. The wire connector to the box motion is hooked over one end of the rod. The other end of the rod serves as a crank and is moved by the back dobby jack as the jack raises and lowers.

The adjustments for this connection are simple. For more lift, we bend the crank end of the rod so that the lifting point is higher on the dobby jack; for less lift, we bend the crank end lower.

Some of these connectors have been running on our looms 10 years without any repairs. *Charles S. Bicksler, Lancaster, Pa.*

Reduce Stopped Time On Full-Fashioned Machines

Some full-fashioned-machine operators move the narrowing heads at the end of each set to the position to start a new set. When this procedure is followed with the machine stopped, time is lost. On some machines, the narrowing fingers can be set while the machine is knitting the press-off courses or the first courses of the welt.

Machines with fixed shock absorbers can easily be arranged to knit the first part of the welt without setting any of the fashioning controls. One or two slides on the splicing or heel block have to be put to work, and two stops must be attached to the carrier rod to allow the carriers to travel the whole width of the needle bar. The stops that limit the carrier-rod movement in relation to the fashioning controls must be removed.

Machines that were changed to produce the round heel can sometimes be modernized even more. Where the carriers widen the fabric for the toe without the narrowing fingers, the round-heel attachment can be used to move the fashioning controls for the beginning of the narrowing. This movement takes place during the first part of the welt on machines with fixed shock absorbers.

In addition to reducing full-fashioned knitting-machine downtime, machine operation is also less dependent on the human factor when this method is used. *K. Albert Hahn, Santiago, Chile*

$500 for Best Kink in 1955

$25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

Send in your Kink now. There is always a contest going on.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your Kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it; we will pay you extra if you do and we can use it.

We like ideas for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

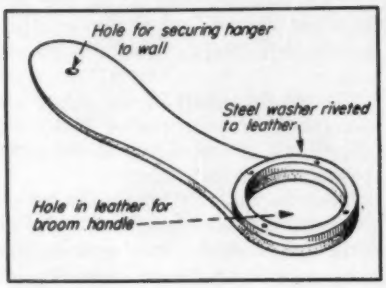
RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1955.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred Kinks in each issue. Their votes will select the best Kink, and their decision will be final. In cases of ties, duplicate prizes will be awarded.

Send Kinks to:

KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

A Leather Hanger Increases Broom Life



LEATHER HANGER increases the wear life of brooms and eliminates safety hazards. To dispose of a broom, the sweeper puts the handle through the hole. The broom is then suspended above the floor against the wall.

We found that brooms left standing against walls often interfered with regular production and became safety hazards when they fell over. Too, the bristles resting on the floor became distorted and the wear life of the broom was cut in half.

To eliminate these difficulties, we made leather hangers upon which we suspended brooms. We shaped leather pieces, about $\frac{3}{16}$ to $\frac{1}{4}$ in. thick, as shown in the sketch. At one end we cut a round hole, slightly larger than the broom handle, and riveted a steel washer of the same size to the leather over the hole. At the other end we punched a small hole, and through it we fastened the hanger to the wall about 5 ft. from the floor.

To dispose of a broom, all a sweeper has to do is put the handle through the washer, and the broom is held firmly against the wall away from the floor.

Best-Kink Award for December

Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.

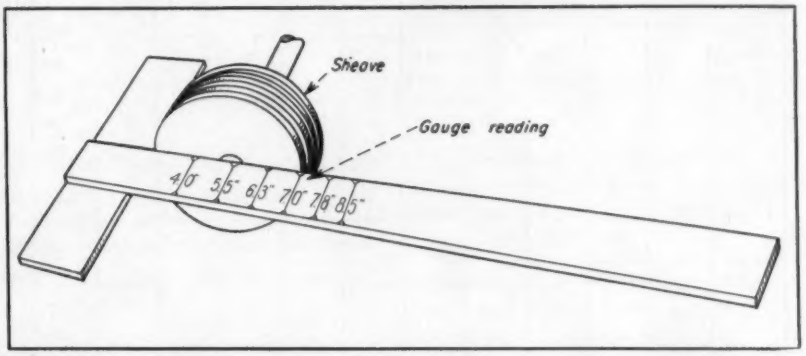
The best Kink for December, according to TEXTILE WORLD reader-judges, was:

"Reel Stop Motion Prevents Short Skeins"

By Kenneth K. Kiser, Whitnel, N. C.

Mr. Kiser is being sent a check for $25 with the compliments of TEXTILE WORLD.

Marked T-Square Measures V-Belt Sheaves



NOTCHES on T-square are painted and marked with pitch diameters of V-belt sheaves. Now one man can measure them quickly and accurately.

Our spinning frames have individual-motor drives with V-belts, and both of the sheaves are rather inaccessible under the frame. Checking sheave diameter used to be a two-man job until we fixed up a T-square to do the job.

The T-square has a 10-in. crosspiece and is 30 ins. long. The long piece is notched, as shown in the sketch, to conform with standard sheave diameters. The markings are in pitch diameters to save looking them up. In addition to just notching, we painted each notch a different color to speed reading the gauge.

Now one man can measure sheaves quicker than two men could before.

We Remove Our Dobbies and Rebuild Them Off the Loom

Rebuilding a dobby requires a lot of time if it's done right, and the loom must be out of production all the time the dobby is being worked on.

We now remove from the loom all dobbies requiring any appreciable repairs and overhaul them in a break-down shop. As soon as a dobby is removed from the loom for repairs, another dobby already repaired is set right on the loom; and the loom is put back in production immediately.

A hoist mounted on a special truck is used to remove and replace dobbies on the looms.

A removed dobby is bolted on a regular stand used to mount the dobby to the loomside. The stand is fastened to a workbench. Then the dobby is completely disassembled and rebuilt with new parts where they're needed. Old parts in good condition are used again.

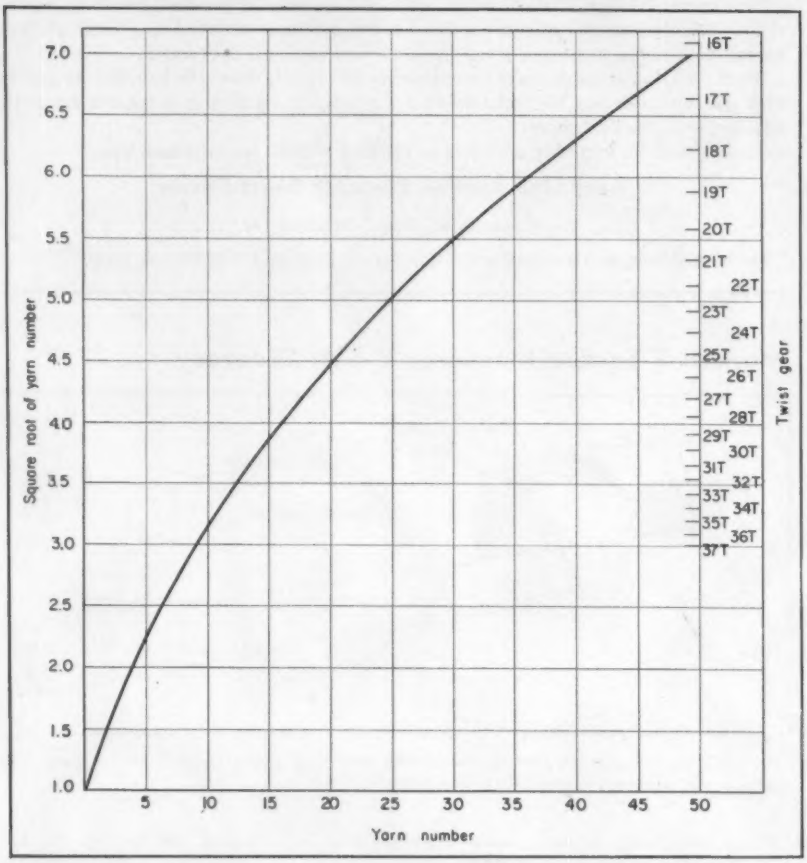
The break-down man doing the work has become extremely competent and can rebuild a dobby quickly and expertly.

The results of this method of repairing dobbies are:

1. Loomfixers have more time to keep other loom parts in good condition.
2. There's less loom downtime.
3. Dobbies are always in good condition.
4. Better cloth is made. *Erwin Mills No. 3, Cooleemee, N. C.*

DOBBY REPAIRS are quickly made at the workbench. The dobby is at the right height to make repairs easily.

Here's a Quick Way To Check Twist Gears



TWIST-GEAR CHART for spinning frames can be made to suit your own range of yarn numbers, frame twist constant, and twist multiplier. After going through the calculation once, all you have to do is use the chart from then on. Mistakes will be fewer.

It's easy to make a mistake when you are calculating a twist gear. That's why we check ourselves with a chart that is simple to make.

Plot yarn numbers across the bottom and square roots of yarn numbers up the left side, as shown in the example.

To get the points for the curve, just use the perfect squares (4, 9, 16, 25, 36, 49, etc.), and sketch in the curve between these points.

Now for the right-hand scale, which indicates the twist gear to use. You'll have to figure out a twist gear by putting your own frame data in this formula:

$$\frac{\text{frame twist constant}}{(\sqrt{\text{yarn No.}})\ (\text{twist multi.})} = \text{twist gear}$$

After you have figured out one twist gear for your frames, you can calculate the other twist gears you need by applying simple proportion to the gear you calculated.

$$\frac{\text{old twist gear}}{\text{new twist gear}} = \frac{\sqrt{\text{new yarn number}}}{\sqrt{\text{old yarn number}}}$$

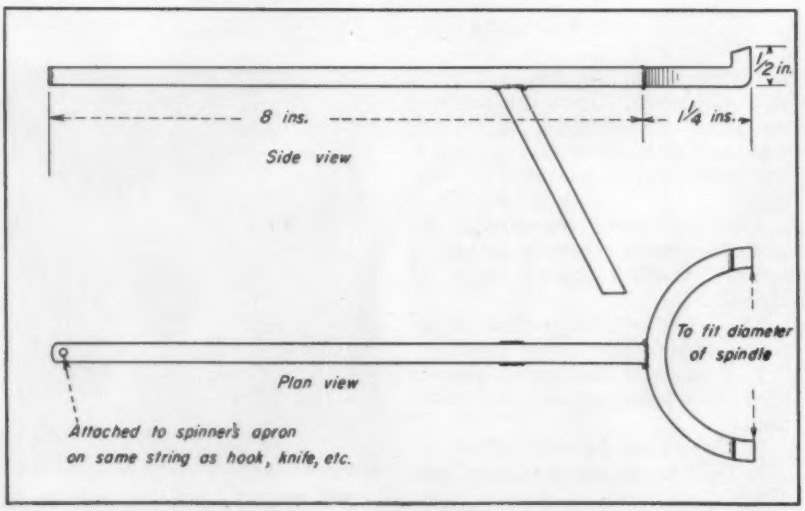
To determine a twist gear, find yarn number, go straight up until you hit the curve, and then go across to the right to read the correct twist gear.

Let's look at the chart. Our frame constant was 532, and our twist multiplier was 4.75.

For a 26s yarn, we'd use a 22 twist gear.

For the finer yarn numbers, there is often a choice between two gears. For greater production, use the larger gear if you possibly can.

Spinner's Tool Lifts Stuck Tubes



TUBE LIFTER is made from ¼-in. stock and is carried by each spinner. The stud pivots on the spindle rail, and the semicircular piece goes around the base of the spindle.

We spin on tubes and often had trouble with stuck tubes at piecing or doffing time. So we invented a little tool for each spinner to carry in her apron.

From ¼-in. rod stock we cut three pieces: 8, 4, and 3 ins. The 4-in. piece was bent into a semicircle and welded to one end of the 8-in. piece, as shown in the sketch. The 3-in. piece was also welded to the 8-in. piece 1½ ins. from the semicircle.

The semicircle piece goes half-way around the spindle base and is curved to do just that. The 3-in. stud gives leverage from the spindle rail.

The ends of the semicircle are raised and beveled to give a firm grip on the tube.

Now our spinners don't have any trouble with tubes sticking. When one sticks, the spinner easily pries it up with the tool.

Handy Knitter's Tool Made in a Few Seconds

This knitter's tool is easy to make and will save lots of time in fixing holes and press-offs.

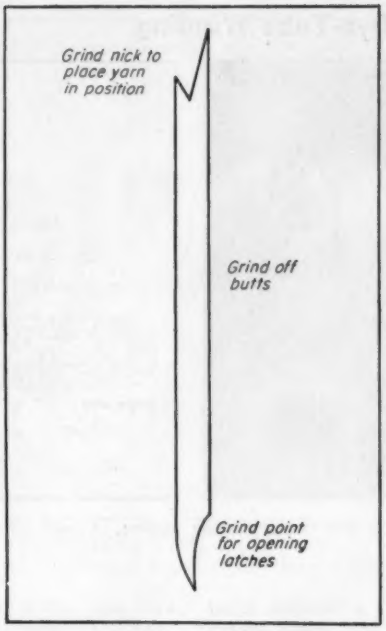
The tool is made from a long metal jack taken from a double-cylinder hosiery machine. Grind off the butts, and with a sharp grindstone make a nick at one end of the jack. Grind the other end of the jack to a bent point.

The sharp point of the tool is used for opening latches.

Rest the bend near the point against the slot walls of Komet machines where the needles rise from the cast-off position. Put the point behind the closed latch, and the latch will be cammed open as the machine is slowly turned by hand.

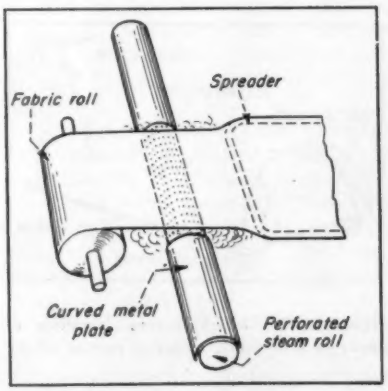
The V-shaped nick is especially useful on double-cylinder machines to push yarn between the sinker throats after the yarn has broken or after a press-off.

This tool will be found useful on all types of latch-needle knitting machines.



KNITTER'S TOOL is made from an old double-cylinder machine jack and is used for opening latches and placing yarn in sinkers.

Improve Efficiency in Steaming Narrow Fabrics



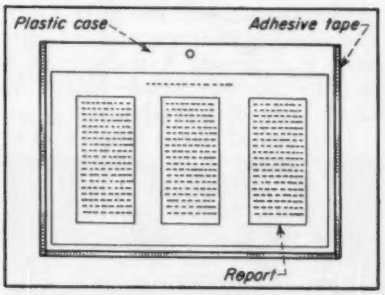
CURVED PLATES on the steam-jet roller direct concentration of steam on the fabric.

When we steam narrow pieces of knit fabric, we lose lots of steam and the steam is not concentrated on the goods.

We now use a device to get a full steam flow over the narrow fabrics: two curved plates that fit over the steam-jet roller.

The plates are adjusted to suit the fabric width to block off the steam on the roller section that is not under the fabric. *Leonard Mauer, Brooklyn, N. Y.*

Plastic Cover Protects Reports



MILL REPORTS contained in a transparent plastic cover last longer. Covers are made to the size of the report and finished with adhesive tape.

Because the reports that we use in the mill became grimy from constant handling, we now slip them in transparent plastic containers.

We cut these containers from sheet plastic to the size required for the report. Two sheets are cut and placed together, and adhesive tape is used on three edges of the sheets to join them together. The report is slipped in at the open top end.

We punch a hole at the top of the container to allow the report to hang on a machine or the bulletin board. *Dan Singer, Newton, Mass.*

Adjust Box Plates Quickly With This Little Wrench

HOMEMADE WRENCH aligns adjustable back box plates quickly and accurately.

It's a tedious job to align the adjustable back box plates on Draper looms, but we've made a little tool to make the job easy.

We grind the short end off a regular Allen-setscrew wrench. Then we weld the ground-off end to the long end of a battery thread-holder wrench.

The resulting tool gives a smooth hand hold with plenty of leverage and extends beyond the front box plates of the loom so that the adjusting setscrews are turned easily.

Now that adjustments are made easily, our looms are aligned more closely; and, consequently, they run better. *Charlie Smith, Atlanta, Ga.*

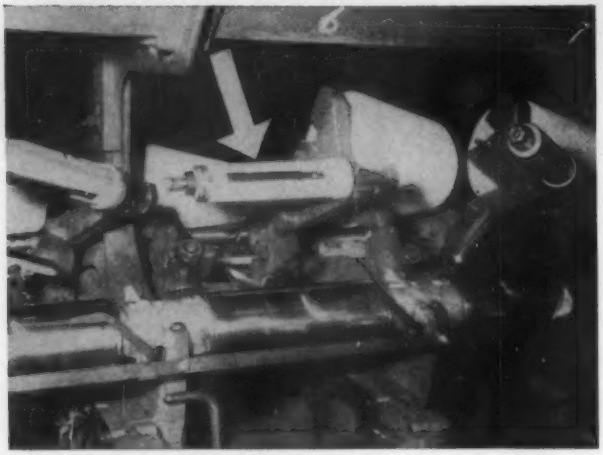
How To Eliminate Current in Shafts

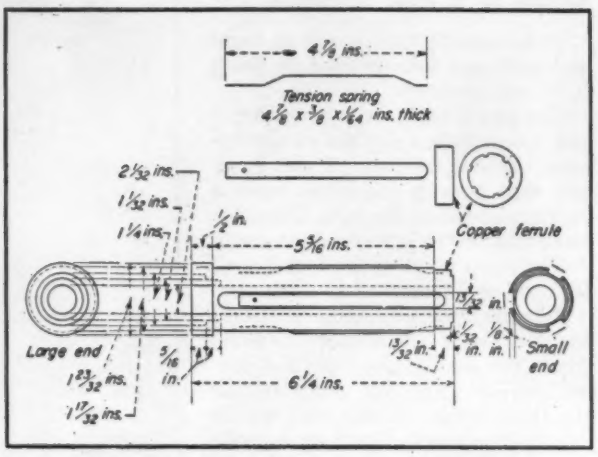
The presence of current in shafts is often the cause of trouble. However, these currents are difficult to detect because they are small and present only when the machine is running. Grounding is not effective because the shaft is insulated by the oil film in the bearings.

The following is an effective method for grounding shafts: Clean a portion of the shaft close to the machine. To the frame, weld a piece of springy brass with one end about ½ in. from the shaft. Drill a hole in the brass to accommodate a carbon rod, and clamp the rod in the hole so that it bears on the rotating shaft.

If the machine is well grounded, the carbon rod will effectively ground the shaft. *W. E. Warner, Essex, England*

Spring-Loaded Holders Help Dye-Tube Winding





DYE-TUBE HOLDER has a spring inside to hold the tube during winding. A small collar holds the arbor tight on the spindle.

Our Roto-Coners were equipped with a wooden arbor to receive the 1⅝-in. metal dye tube, but these arbors became worn and the dye tubes did not fit snugly on the arbor.

Also, the operator spent considerable time doffing because part of the wooden arbor had to be removed before the empty dye tube could be placed on the arbor. The part was removed when a full package was taken off.

We developed this dye-tube holder (see sketch) to replace the wooden arbors that were worn out.

Springs hold the dye tube in place, and operators doff packages with no interference. The arbor is tight on the spindle, and it is held in place by a small collar. The complete assembly is shown in the picture. *St Croix Mill.*

How To Transfer Tricot Warps With Little Trouble

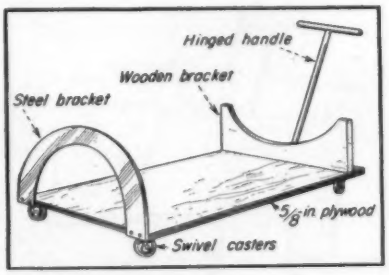
When we have to transfer a warp from one tricot machine to another, we keep the threads straight to apply the adhesive paper by using an extra guide bar. Here's how we do it:

The extra bar is entered vertically between the two regular bars. The threads fall between the guides, and a wire is slipped through the guide holes to hold them in position and away from the regular bar. We use ¾-in. plain paper to lay on the threads behind the extra guide.

The adhesive paper is then pressed on the threads over the plain paper. The wire is withdrawn, and the extra guide is removed. A sharp knife is used to cut the threads below the paper.

This method takes a little longer to paste than the usual method, but it pays off in reentering the warp. Twisted and tangled ends that occur around the guide brackets are eliminated, which results in better fabric. *S. Reber, Meriden, Conn.*

Handle Heavy Rolls of Fabric With This Truck

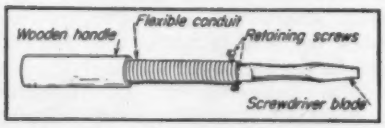


HOMEMADE TRUCK makes handling of heavy rolls of fabric easier in narrow alleys.

Handling 80-lb. fabric rolls in narrow alleys between knitting machines was a problem in our mill until we made a special truck for the job. Here's how we made it:

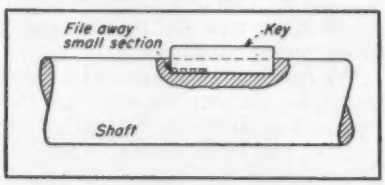
We screwed four casters to the bottom of a platform made from ⅝-in. plywood. A semicircular steel bracket was screwed to one end of the truck, and a wooden bracket with a cut-out portion was screwed on top of the truck. The fabric roll rests in the cut-out portion of the bracket. A hinged handle helps material handlers move fabric much easier and faster. *Dan Singer, Newton, Mass.*

This Screwdriver Gets Into Tight Places



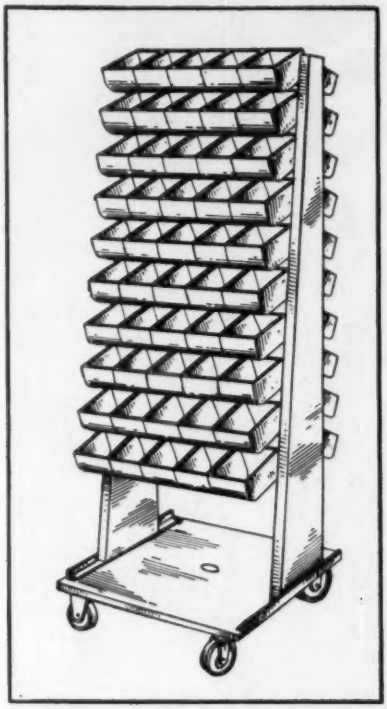
HERE'S A SCREWDRIVER you can work from any angle when obstructions make it impossible to get a direct thrust. The shank of the screwdriver is made from flexible-steel conduit. Drill and tap two holes in one end of the shank to accommodate two screws. These screws will now hold screwdriver blades of various sizes. Then put a wooden handle over the conduit for easy operation. You can also use this screwdriver for screwing small nuts onto bolts. *W. E. Warner, Essex, England.*

File Key End For Easy Removal



A KEY can be made easily removable from the keyway by filing away a small portion of the bottom at one end of the key. An easy tap with a hammer at the filed end is all that is required to loosen the key. *D. Barrett, Petone, New Zealand*

Mobile Parts Shelves Speed Change-overs



SPARES are kept in the trays in the mobile shelves, which are pushed to the machines, so that change-overs can be carried out in a shorter time.

We change the patterns on our knitting machines frequently, and we save a lot of time by bringing all the spare parts to the machine at one time.

We built a mobile parts container with 10 rows of shelves to hold the various boxes in which we keep spares. The shelves are screwed to the two uprights at an angle so that the fixers can readily see the part. The boxes are nailed to the shelf to keep them from sliding off.

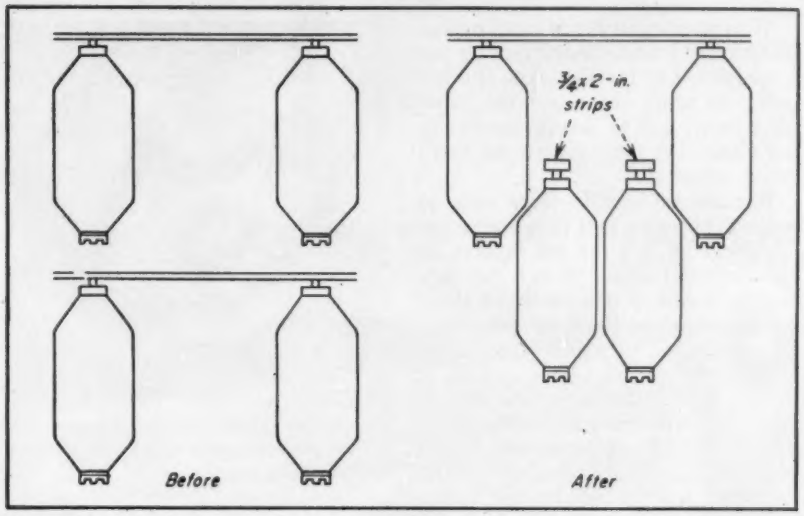
The uprights are tapered to prevent the device from toppling over, and they are screwed to the flange of a flat plate. The flat plate, which forms the supporting bed, has four casters screwed to the under side to make it portable. *Dan Singer, Newton, Mass.*

Nicked-Cone Protector

Nicks on the top of our cones that hold synthetic yarns caused frequent machine stops and broken ends.

We now use 1½-in.-dia. brass rings on cones likely to cause trouble. The brass ring is slipped over the nose of the cone; and as the yarn unwinds from the cone, the brass ring keeps it from touching the cone. *L. Mauer, Brooklyn, N. Y.*

Our Top Spinning Creels Were Lowered 5 Ins.



TWO WOODEN STRIPS, one for each side of the frame, replaced the center creel to support the lower row of bobbins. Top creel was then lowered 5 ins.

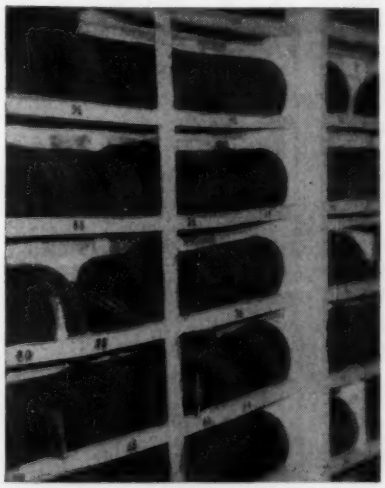
When we changed from 10x5 to 12x6 slubber bobbins, we were faced with the problem of raising our middle creels 2 ins. and the top creels 4 ins. But raising the creel would mean lifting a 26% heavier bobbin an extra 4 ins. We thought any advantage in longer running would be offset by spinner fatigue.

So we figured out this way to lower our top creel 5 ins.

We removed the center creel and substituted two ¾x2-in. maple strips to support the two lines of roving in the center creel. The wood was shellacked with several coats, and spinners now don't even have to clean the center creel.

Our spinners like the new arrangement, and we've gotten the full advantage of the larger bobbins. *G. H. Bass, Swift Mfg. Co.*

Keep Pick Gears Orderly In a Numbered Rack



NUMBERED PICK GEARS correspond to the numbers on the rack, and loomfixers can quickly pick out the gears they need.

The problem of storing extra pick gears with easy availability used to give us a lot of trouble. We tried several methods, and pegs set in planks on the floor worked best. But this method took up too much space to locate the gears close to the looms.

We now have a handy way to store gears: racks along the wall. The racks are 10 ft. high and are made primarily from 2x4-in. lumber. The racks are set against brick walls and come out even with the pilasters. A 1x10-in. board is used at each end of the rack to fasten the rack to the pilaster.

Gears are stacked upright in sections of the racks, and each number of gear is numbered on the rack. Where only a few gears of one number are used, the gears are separated by small blocks of wood to hold them upright.

A weave-room cleaning man goes through the gears once a month to keep the rack orderly and to insure that each gear is in the right section.

Advantages of this method of storing pick gears are: (1) the correct gear can be picked out quickly by number, (2) little floor space is required, and (3) the gears are always tidy. *C. M. Whitcher, Midland, Ont.*

Use a Patch To Repair Broken Cloth-Roll Stands

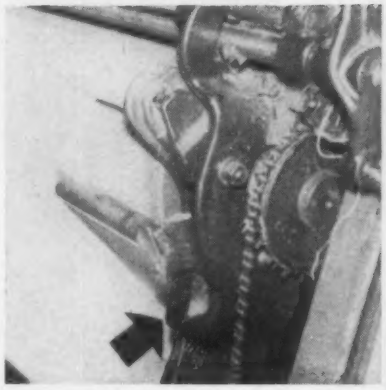
We run many styles of cloth on our XD Draper looms. Sometimes we use a spreader bar for the cloth to run over. At other times, we use paper on a round roll to prevent creases in the cloth. On some fabrics, we don't run a roll at all.

Because we handle these rolls so much in changing fabrics, we occasionally break off half the roll support on the cloth-roll stand. When the support is broken, a new cloth-roll stand has to be put in the loom; and it's a long, dirty job to replace one of the stands.

We have learned a quick way to repair a cloth-roll stand without removing it from the loom. We bore a hole into the broken surface left on the stand and tap out the hole with a ¼-in. tap.

Then we cut a 2½-in. length of 1x⅛-in. strap iron and bore a ¼-in. hole near one end. We bend the iron slightly, according to the way the stand is broken, and screw the iron to the stand with a machine screw.

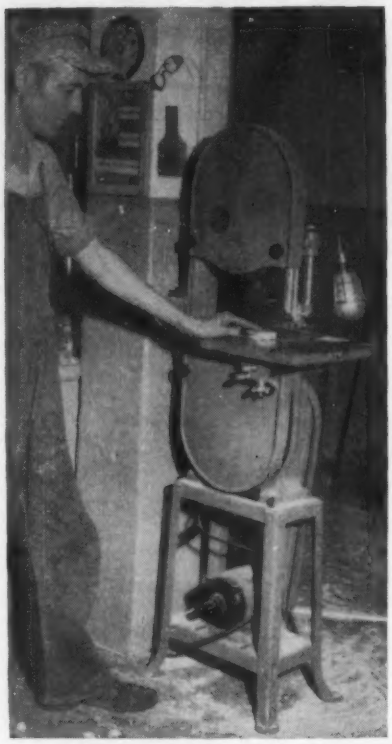
We have our machine shop make several of the straps at a time and keep them in stock. When a stand breaks, we can tap the hole in 10 mins., with the loom running. Replacing the cloth-roll stand requires more than an hour's work with the loom stopped.



PATCH ON STAND (arrow) is fastened with a ¼-in. machine screw and holds the spreader bar securely.

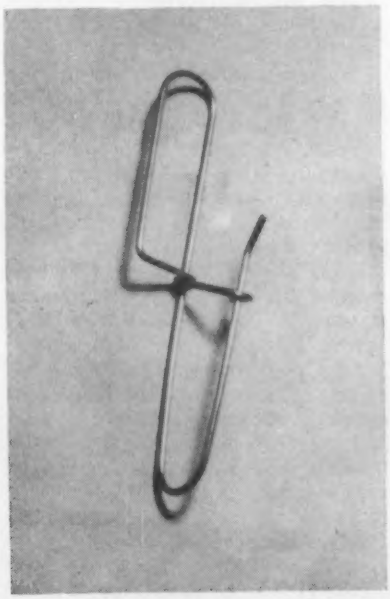
The repair is permanent because it can never break off again. If the spreader bar is knocked out at one end or is dropped, it merely slips out of the stand or, at worst, bends the steel strap a little. Production gains aren't noticeable, but loomfixers' time is saved. *C. M. Whitcher, Midland, Ont.*

Light for Band Saw



SIGNAL LIGHT on the band saw in our mill carpenter shop comes on when the band saw is started. Sometimes a carpenter used to forget to turn off the switch, and the saw ran indefinitely. Now the 50-w. electric bulb shows when the saw is running. In addition, the light is directed on the saw working area, and a line marked on the work being sawed can be seen clearly. *Orrie Gideons, Greensboro, N. C.*

Safety Hooks Hold Warp Tickets to Looms



WARP TICKETS stay put in the closed end of the hook fastened to the loom arch, even where the loom is blown off.

We have a warp ticket for each loom in our weave room to show the style number and give other information on the number of warp ends, yarn number, etc. We used to hang the warp tickets on hooks made from steel wire and bolted to the arch of the looms.

These hooks caused trouble in two ways:

1. The open end of the hook sometimes scratched a weaver or loomfixer when he lowered his arm.
2. The warp ticket was continuously coming out of the hook and falling to the floor. Almost every time a loom was blown off with compressed air, the ticket was blown off the hook.

Now we use a hook that snaps closed on one end somewhat like the action of a safety pin. One end of the hook is fastened through a bolt hole in the loom arch. The other end snaps shut over the warp ticket, and the ticket cannot fall out.

Since we've been using these new hooks, the warp tickets are always clean and easy to read, and they are never lost. *Mrs. Emma Seabolt, Greensboro, N. C.*

Protect Production Tickets With a Plastic Cover

Nearly every machine in our mill is size, or raw material from the others. A production ticket passes with the goods from the yarn-storage room to the finished product.

The ticket is handled constantly and becomes soiled and torn before it reaches the final operation.

We now protect the tickets with a transparent plastic cover. A metal ring slipped through a hole in the cover allows the ticket to be hung on the yarn bin, knitting machine, or stock rack. The shipper collects the covers and returns them to the production department for reuse. *Dan Singer, Newton, Mass.*

CARDING

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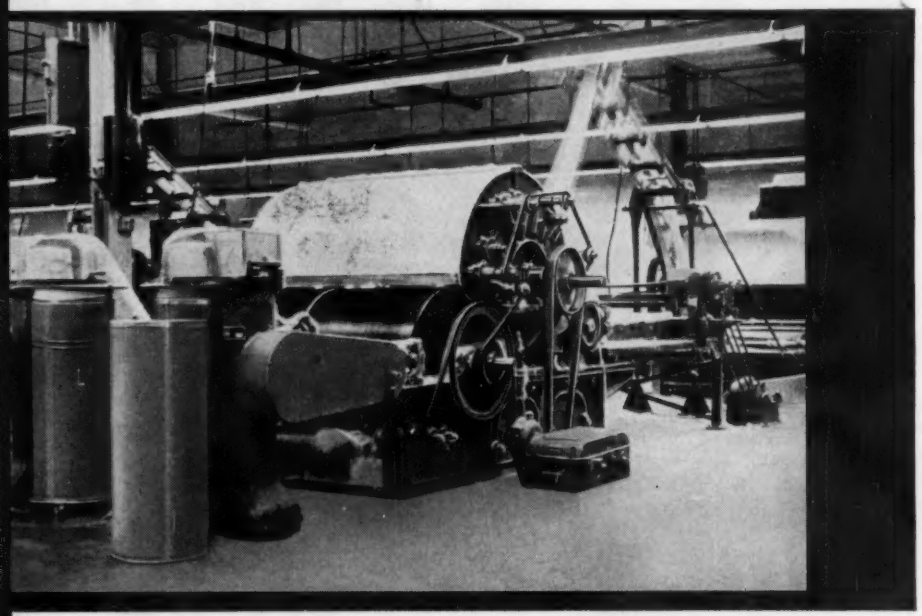

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Outstanding TRADE LITERATURE *Free for the Asking*

NO REPEATS . . . Listed here for February are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

Cone gill reducer—For worsted and synthetic fibers. 20 heads, 80 spindles. Draft with single zone 5 to 15; with double zone up to 30. Societe Alsacienne de Constructions Mecaniques. (F-1)

Slitter—For plastic film, foil, tape, cloth, and paper; widths 32 and 42 ins. Minimum slit width ¼ in. Maximum speed 500 ft. per min. Air-operated tension controls. John Dusenbery Co., Inc. (F-2)

Rolling and measuring machine—Rolling-head speed is 138 yds. per min. Diameter of rolls made up to 28 ins. Cloth width up to 86 ins. J. E. Windle Machine Works. (F-3)

Buncher-strander—Production 6,000 ft. per hr. 12-in.-dia. reel with 14-in. traverse. Holds about 250 lbs. of bare copper wire. Diameter of finished work 0.0625 to 0.3125 in. Haskell-Dawes Machine Co., Inc. (F-4)

Selvage trimmer—Removes all selvage threads up to 150 yds. per min. Accommodates cloth rolls up to 36-in. dia., any width. Hermas Machine Co. (F-5)

Cutter-winder—Cuts materials at 125 yds. per min. Winds a soft roll. Cuts open-weave materials. No wetting agent needed. Cuts rolls 12 ins. minimum diameter. H. W. Butterworth & Sons Co. (F-6)

Dyebecks—In sizes from 3 ft. to 20 ft. Takes up to 7,000 yds. in one batch. Short lift with low tension. Fast-acting drains. Saves space, dye liquor, and steam. Bulletin 546. Rodney-Hunt Machine Co. (F-7)

Multipurpose calender—For friction, embossing, schreinering. 40- and 75-ton machines. Any width up to 72 ins. Pneumatic loading system. 10- to 14-in.-dia. top rolls. Bulletin T-102. McKiernan-Terry Corp. (F-8)

Textile finishing machinery—80-ton hydraulic calender. 100-ton friction calender. Five-roll rolling calender. Three-roll hydraulic rolling calender. Embossing and schreinering calenders. B. F. Perkins & Sons, Inc. (F-9)

Padder mangle—Uniform pressure up to 30,000 lbs. 18-in.-dia. rolls, any width. Movable bottom roll. Rolls are at an angle to give no deeper shade on the selvage. Bulletin 943. Rodney Hunt Machine Co. (F-10)

AUXILIARY EQUIPMENT

Cooling cylinders—Used with calenders, dryers, tenters, and batchers. There are no rotating joints, no sealed-in chambers. Gravity system does not depend on pressure. Uses little water. J. E. Carroll & Co. (F-11)

Hosiery accessories—Plastic stacking boards, sewing-machine guards, examining glasses, seamer trays, looper guards, preboarding racks, pairing tables, forms, and knitting-machine guards. Plastic Industries, Inc. (F-12)

Unevenness tester—Measures true coefficient of variation of yarn, roving, sliver, and top. Integrates over a definite length of material. Electronic Associates Ltd. (F-13)

Automatic card-flat-chain lubricator—40% increased life in flat chains. Lubricating sprocket makes about 8¼ revolutions each hour on chains moving at 3.25 ins. per min. Jarrell Bullard Co. (F-14)

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READER SERVICE *(Continued)*

Variable-speed drive—Change is made by moving both flanges of sheave with one screw. Belts are notched underside, have rigid cross ribs, tension cords. T. B. Wood's Sons Co. **(F-15)**

Tension analyzer—Maximum sensitivity 0.1 gram per millimeter. Range is 4 to 400 grams. Frequency cut-off filters out short-term tension variations. Catalog ED 11405. Brush Electronics Co. **(F-16)**

Loom motors—Heavy-duty ball bearings. Totally enclosed construction. Neoprene-covered four-conductor cable with positive cable-grip connector. Large grease reservoir. Delco Products. **(F-17)**

Lap tester—End of lap is fed through and cut off by electrically controlled geared timing mechanism. Lap is then weighed on sensitive scale to indicate difference from standard. Precision Gear & Machine Co. **(F-18)**

Laboratory microscopes—Ball-bearing revolving nosepiece, 10X objective, removable mechanical stage with below-stage controls and automatic focusing. Bausch & Lomb Optical Co. **(F-19)**

Air-conditioning equipment—For cooling, humidifying, ventilating, heating, dehumidifying, and filtering. Humiduct consists of intake, fan and evaporator section, air duct, and automatic control. Section 4-A. Bahnson Co. **(F-20)**

SUPPLIES & CHEMICALS

Roll pickers—No lubrication required. Built-in speed regulator, light weight, small diameter. Easy-to-change collet. True-running rods. Keller Tool Co. **(F-21)**

Fancy yarns—In Bemberg rayon. Specifications for short nubbi, cupione, long slub, measle, strata slub, and dream slub yarns. American Bemberg **(F-22)**

Saddles—Eliminate two-thirds of area to be cleaned because there are no cap bars. Reduces picking costs by 75 to 90%. Product Sales, Inc. **(F-23)**

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Synthetic organic chemicals—Physical properties of alcohols, glycols, acetals, plasticizers, esters, ketones, hydrocarbons, acids, chlorine compounds, and aldehydes. Booklet F-6136. Carbide & Carbon Chemicals Co. **(F-27)**

Detergent and wetting agent—For desizing, kier-boiling cotton yarns and

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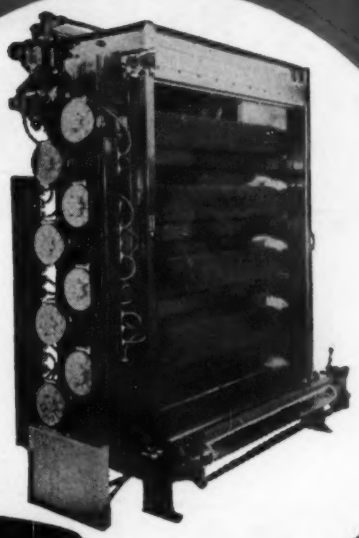

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"—Rolls are balanced to prevent whipping.

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Emulsion—For Dynel industrial clothing to make garments splash resistant to acids and alkalis. Does not clog fabric pores. Neirad Industries, Inc. (F-30)

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Sealed casters—Not damaged by steam, moisture, dirt, or spray. Wheel sizes from 4- to 8-in. dia. Felt seals keep lubricants in. Rapids-Standard Co., Inc. (F-31)

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Air-brake starters—For 2,200 to 5,000-v. motors. Built with current-limiting power fuses. Air-core reactors. Folder 1060. Electric Controller & Mfg. Co. (F-33)

Air clutch—With finger-tip control. Requires minimum space on shaft. Internally ventilated. Operates at air pressures up to 150 psi. Bulletin A634. Dodge Mfg. Corp. (F-34)

Maintenance improvement—Organization studied, staff evaluated, facilities analyzed, methods examined, policy defined. Anderson-Nichols & Co. (F-35)

Switchgear—For indoor and outdoor service. Low voltage, 600-v. maximum. 15 to 6,000 amps., 15,000- to 100,000-amps. interrupting rating. Westinghouse Electric Corp. (F-36)

Scaffolds—For off-the-ground maintenance. Trestles, ladders, and scaffolds for painting, cleaning, electrical work, plant repair. Bulletin G-205R. Patent Scaffolding Co., Inc. (F-37)

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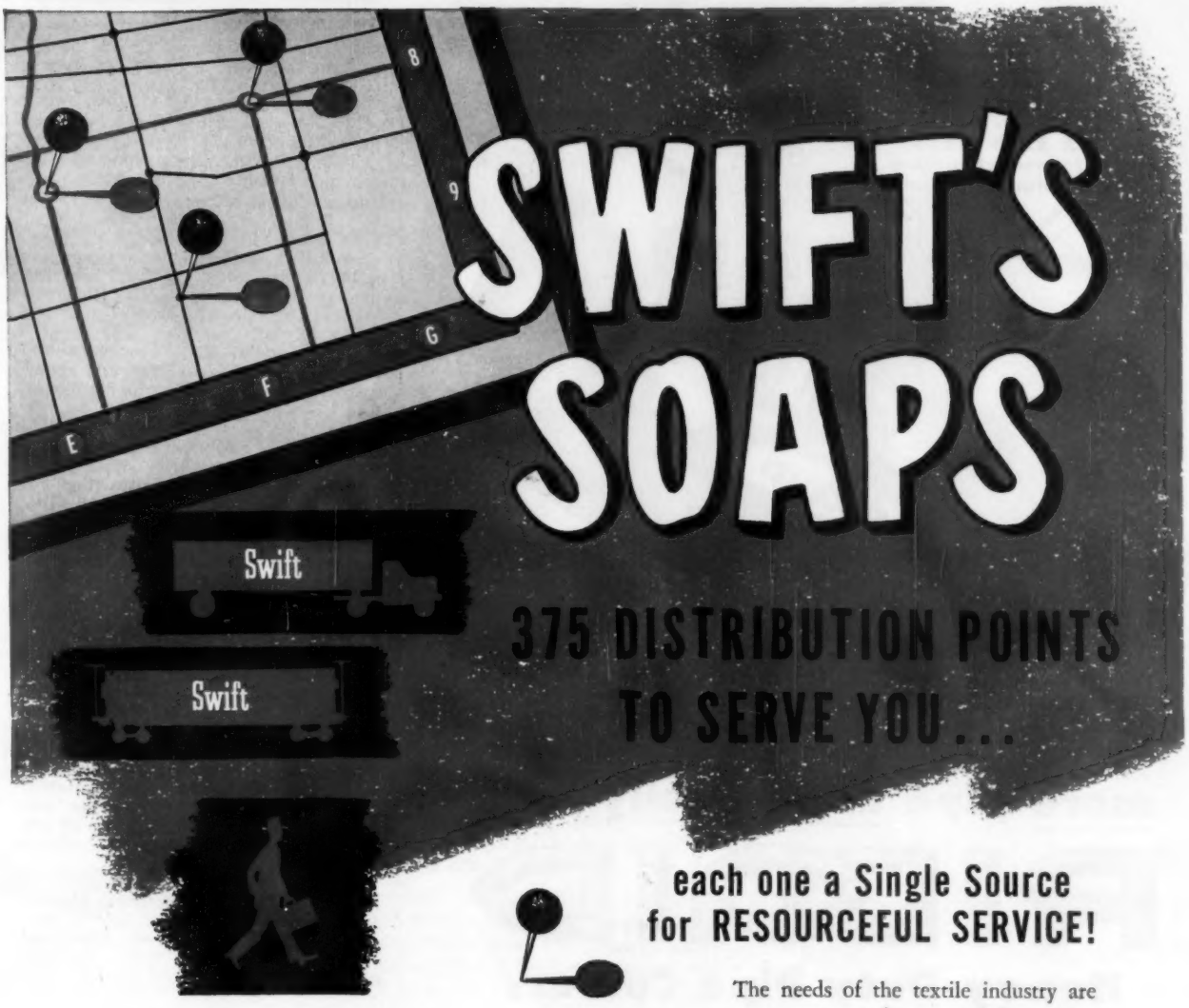
Building maintenance—Flashing and coping repair, installation of mastic flooring, caulking and pointing, glazing, painting. Tremco Mfg. Co. (F-39)

Heating systems and controls—Automatically controlled high-vacuum steam-heating system that adjusts its heat output and fuel consumption to outdoor temperature. Bulletin 110. American Air Filter Co., Inc. (F-40)

GENERAL

Apprenticeship programs—How to set one up. Textile technicians or mechanics require two, three, or four



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Fire doors—Flat surface. All steel, economical, and attractive. Doors are 1 13/16 ins. thick. Weight is 5 lbs. per sq. ft. Catalog A-95. Richards-Wilcox Mfg. Co. **(F-43)**

Platform scale—For sliver cans and roving. Height 51 ins. Over- and underweight indicator. Hydraulic dampener. Exact Weight Scale Co. **(F-44)**

Cotton-textile manufacture—From raw cotton to finished fabric. With photographs and schematic drawings of each process. Gulf Oil Corp. **(F-45)**

Intercommunication systems—Permit unlimited simultaneous conversations, private conversations, or general broadcast. Kellogg Switchboard & Supply Co. **(F-46)**

Bench scales—Double-pendulum mechanism with one-piece sectors. 31% larger platform. 8 choices of dial direction. Form 2006. Toledo Scale Co. **(F-47)**

Fork-truck attachment—Clamping fork with drum up-ender. Stacks, transports, and dumps barrels and drums. Handles objects 18 to 26 ins. in diameter. Lewis-Shepard Products Inc. **(F-48)**

Packaging—With Bakelite plastics and resins. Molded and blown plastics, coatings, adhesives, film, and rigid-sheet materials. G-21. Bakelite Co. **(F-49)**

Corrugated boxes—Shelf and counter display, luggage style, prepaks, combination shipping and display. Methods of sealing, packing, and displaying. Hinde & Dauch. **(F-50)**

New Picker Room

CONTINUED FROM PAGE 78

of the open cotton and reduce setback laps. The Super-Jet removes 5% more small leaf than the mill's regular beaters did; and since beating is eliminated, the condition of the opened cotton is better. A lever on the side of the machine provides easy adjustment of dirt removal.

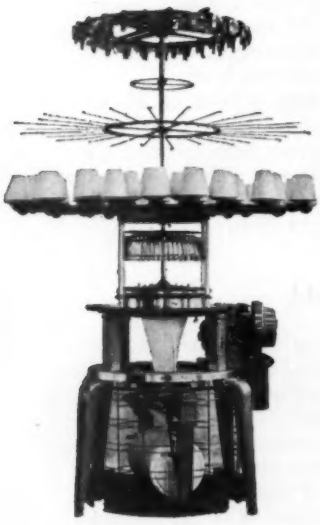
The pickers are fed by a gyrator, with spangles forcing the cotton ahead; and stock that does not drop from the distributor into the picker hoppers is recirculated in the gyrator.

In the breaker section of each picker, a fan in the screen section removes dust from the picker and forces it into a filter room where filters,

TORRINGTON NEEDLES

meet the exacting requirements

of the famous Brinton 108-Feed Knitter



FOR EXAMPLE, where multiple-feed operation is a severe test of needle construction. The new Brinton 108-Feed Jersey Fabric Machine can produce solid and striped jersey fabrics and can be converted to produce fancy jersey pattern wheel yard goods.

"One reason for Brinton's lead in making high-speed knitting machines that turn out fine quality material at low production cost is that we use the largest number of feeds possible," says Mr. Edward T. Taws, President of Brinton Machine Co. "We use Torrington Needles because they have the stamina to hold up under the taxing demands of our multiple-feed machines."

Torrington Needles offer the knitter all the operational advantages of the finest needles obtainable: precision performance, longer needle life that keeps machine downtime at a minimum, and perfect laying of stitches to produce a fine fabric.

We invite you to join the many who are profiting from the consistent use of Torrington Needles. There is a Torrington Needle to meet your every knitting requirement . . . backed by the expert assistance of Torrington to help solve needle problems. Call or write your nearest Torrington office for prompt service.

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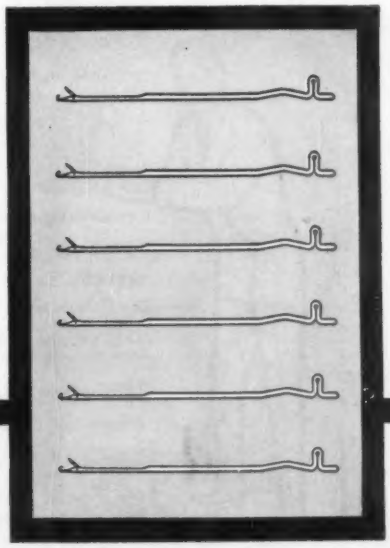
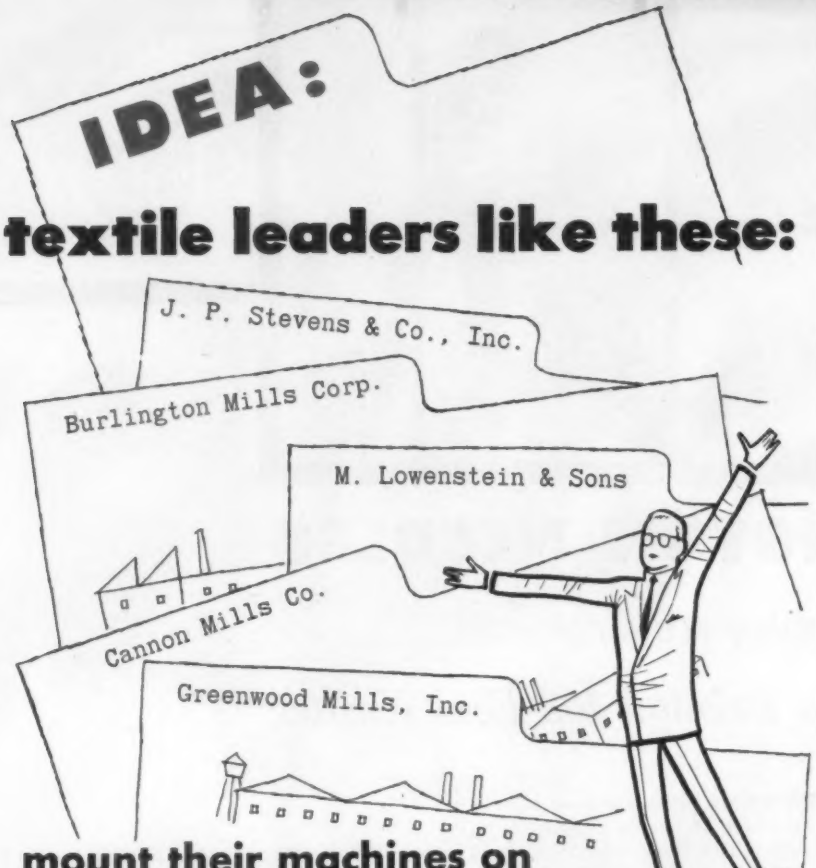


There's a **TORRINGTON NEEDLE**

for every machine . . . for every type of knitting



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composed of glass fiber with a paper backing in a metal frame, retain the dust. Air is blown back into the picker room. The result is a noticeably less-dusty picker room. The filters are cleaned weekly.

Pneumatic Loggerheads Used

The calender-roll loggerhead is controlled by air pressure at 70 psi. The delivered lap is firmer and more uniform, and the doffer's chore of manually raising and lowering the loggerhead is eliminated. The length of the lap was increased from 48 yds. to 56 yds.

One man doffs the eight pickers. Picker-room production is 22,410 lbs. per 8 hrs.

Most rotating parts of the pickers, except the calender rolls and feed rolls, are equipped with ball bearings to eliminate most of the oiling and greasing formerly required.

Labor Costs

CONTINUED FROM PAGE 97

production each is 6 10/12 doz. per hr.

Shoulder joining is done on Wilcox & Gibbs flatlock machines by three operators who produce 28½ doz. per hour, or 0.35 manhours per dozen.

Merrow A2DH machines are used for hemming. Three operators produce 30 4/12 doz. each per hour.

Shoulder tacking is done on Singer 79-1 machines by five operators who produce 20 doz. per manhour or 0.05 manhours per dozen. The shoulders are trimmed by three workers, who do 32¼ doz. per hour each.

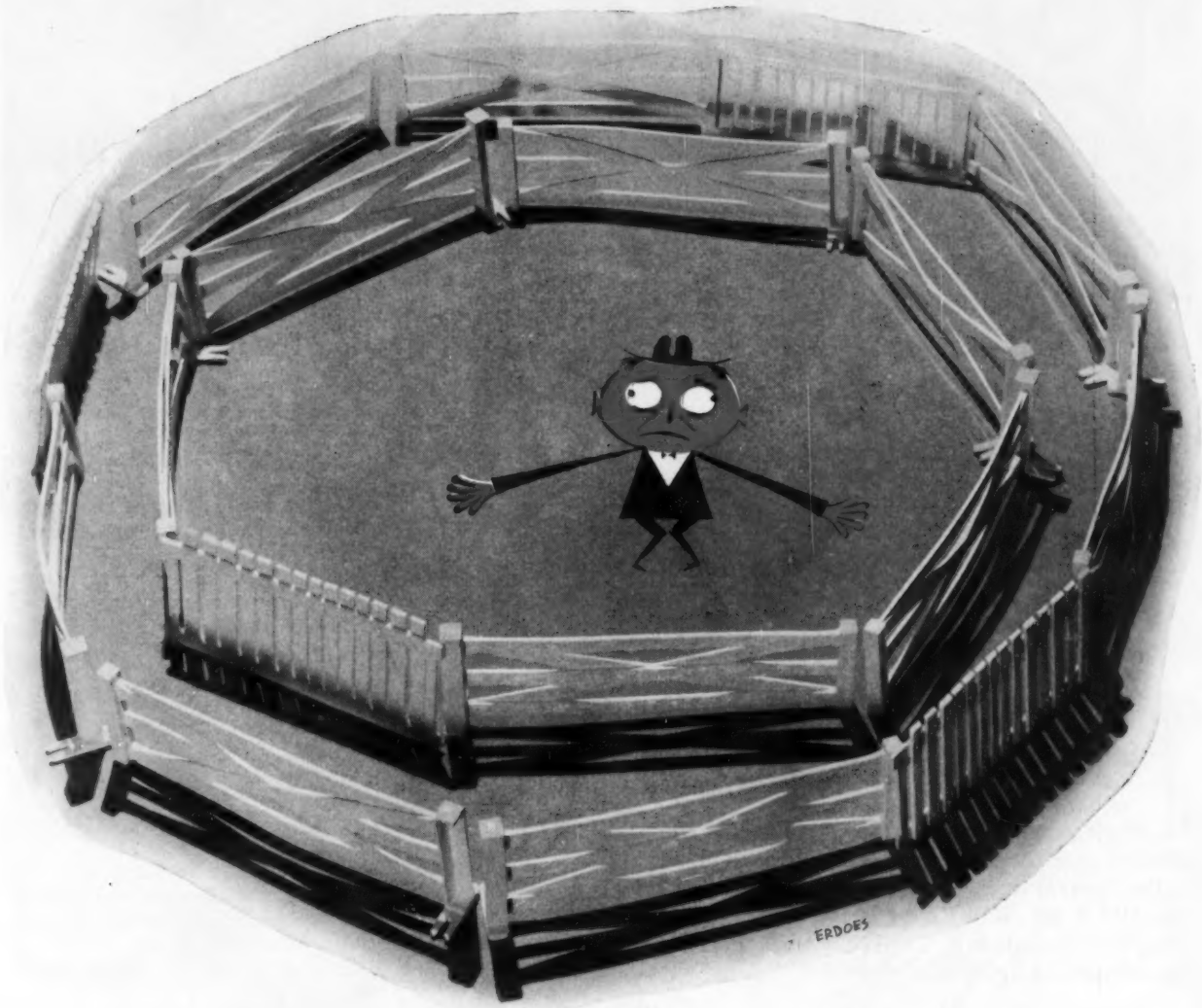
Nine Girls Fold

There are nine folders with a production of 13 2/12 doz. per hour each. They use a pencil-marked grid on the table as a guide. Tissue paper is inserted in each garment.

A team of three girls press 100 doz. per hour on a Prosperity Co. undershirt presser. Twelve shirts are pressed at once while 12 shirts are removed at the other end of the press. The shirts are then placed in 1-doz. boxes by two girls, who average 55½ doz. each per hour.

Mending is done by two indirect-labor workers who clean spots and make minor repairs. Rejects amount to 4% of the total production, and a large percentage is sold as seconds. Others are cleaned and sold as regulars.

The yearly production cycle from knitting to boxing is seven days.



stymied?

Stymied by costly breakdowns? Perhaps the trouble is faulty lubrication. To find out, talk with a Cities Service Lubrication Engineer. He's interested in your particular problems...and the particular lubricants he recommends can pay off with interest. Call your nearest Cities Service office or write: Cities Service Oil Company, Sixty Wall Tower, New York 5, N. Y.

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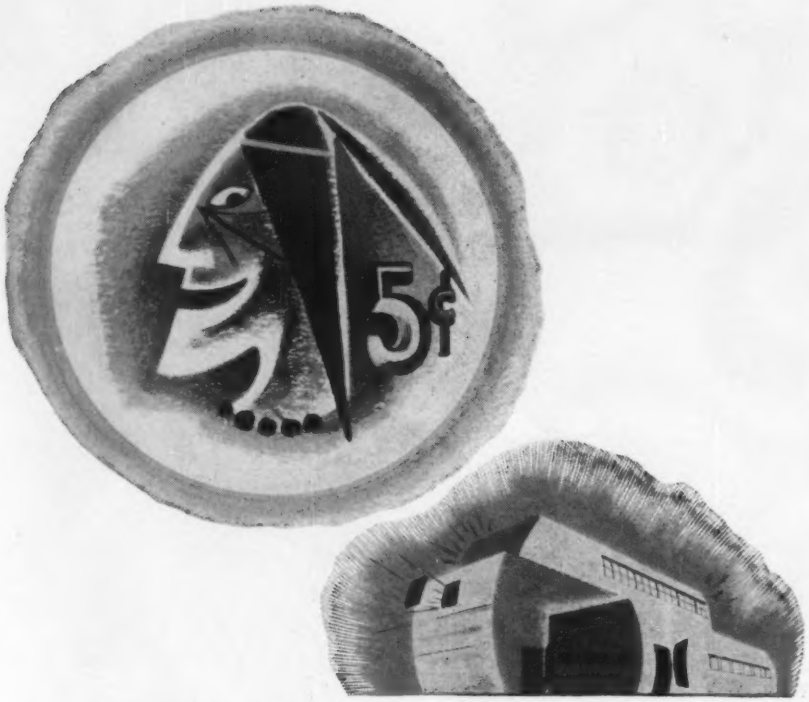

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Why? . . . because Anheuser-Busch, Inc., is vitally concerned with the future research and development of corn derivatives and their application to daily life.

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How To Stop Electrical Fires

Electricity improperly used starts more fires in industrial plants than anything else. Half the damage from electrical fires can be prevented by periodic equipment inspections and, at longer intervals, by dismantling the equipment to check every detail likely to cause trouble.

The expense of such a program is small when measured against the consequences of an electrical breakdown and fire.

Checklist Prevents Fires

Good maintenance to prevent fires involves:

1. Keeping equipment clean and dry
2. Checking periodically for signs of overheating
3. Lubricating regularly with the proper type and amount of lubricant
4. Keeping protective devices in operating condition
5. Making sure the ratings and settings are correct
6. Setting up a maintenance schedule for important equipment

Records of inspections should be kept. They will indicate when repairs or a general overhaul are needed. Insulation tests may show that failure is imminent; then repairs can be made at the most-convenient time rather than under emergency conditions.

The inspector should be a competent electrician familiar with equipment manufacturers' instructions. He should also be aware of the need for special equipment and safeguards in hazardous locations. His equipment should include instruments, gauges, tools, and accessories required to make all necessary tests.

Wiring Failures Lead

Wiring failures are the most-frequent cause of electrical fires. Time and temperature deteriorate insulation. Continued severe loading of circuits produces overheating and causes insulation breakdown much sooner than normal.

Vibration from equipment can loosen connections or abrade insula-

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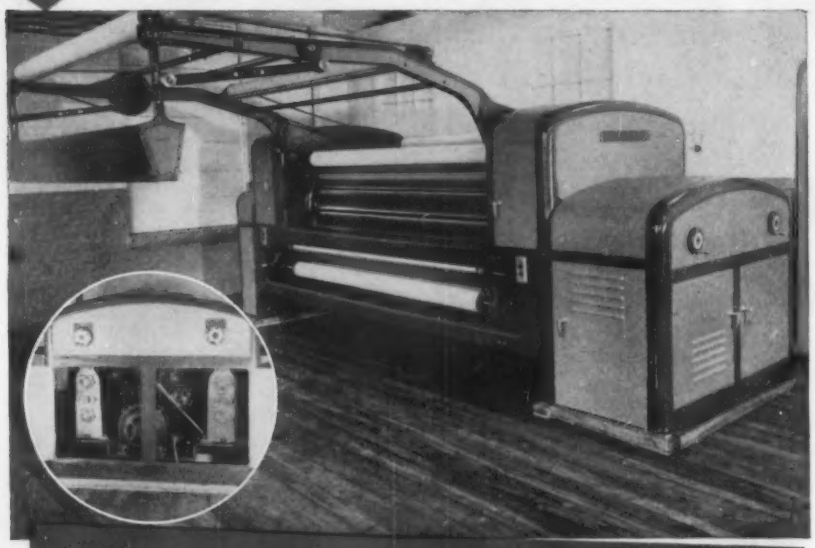

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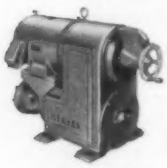
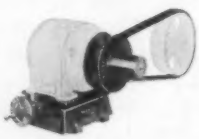


MOTODRIVE combines motor, speed varying mechanism and reduction gears in single, compact unit. Speed variations 2:1 to 6:1. Sizes to 40 hp. Also available in fractional sizes with 10:1 ratio.



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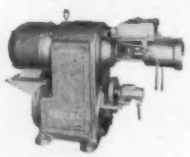

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tion; overheating or short circuits result and ignite the insulation or nearby combustibles. Constant checking is needed where vibration is severe.

Sometimes equipment is unexpectedly exposed to high humidity, wetness, oily or corrosive materials, or abrasive or conducting dusts. All these conditions cause insulation to deteriorate rapidly.

Important wires or cables having combustible insulation, and grouped closely together, are especially dangerous. An arc or ground can start a fire that quickly involves all the circuits. Combustible cables should not be grouped closely together unless they are wrapped with asbestos tape and coated with a sodium-silicate solution. Cable can be bought with a fire-resistant outer braid. Grouped lead-sheathed cables burn as readily as the ordinary rubber-covered conductors because the lead quickly melts and offers no protection.

Motor Fires Come Next

Motor fires are next in frequency. Short circuits or grounding of windings occur as a result of insulation breakdown. These failures are caused by excessive vibration, oil leaking from bearings, conductive or abrasive dusts, sharp metal chips, excessive current from lightning surges or poor switch contacts, or brittleness and cracking due to age.

Many motor fires are the result of single-phasing. In a three-phase circuit, a blown fuse or a poor switch contact will cause the phase that remains in service to use more current and overheat; and eventually the windings burst into flame. If the motor is provided with appropriate running overcurrent protective devices, such fires cannot occur.

In switches or controllers, loose or worn contacts may overheat and start to arc; the result is that the covers blow open and shower the vicinity with globules of molten metal.

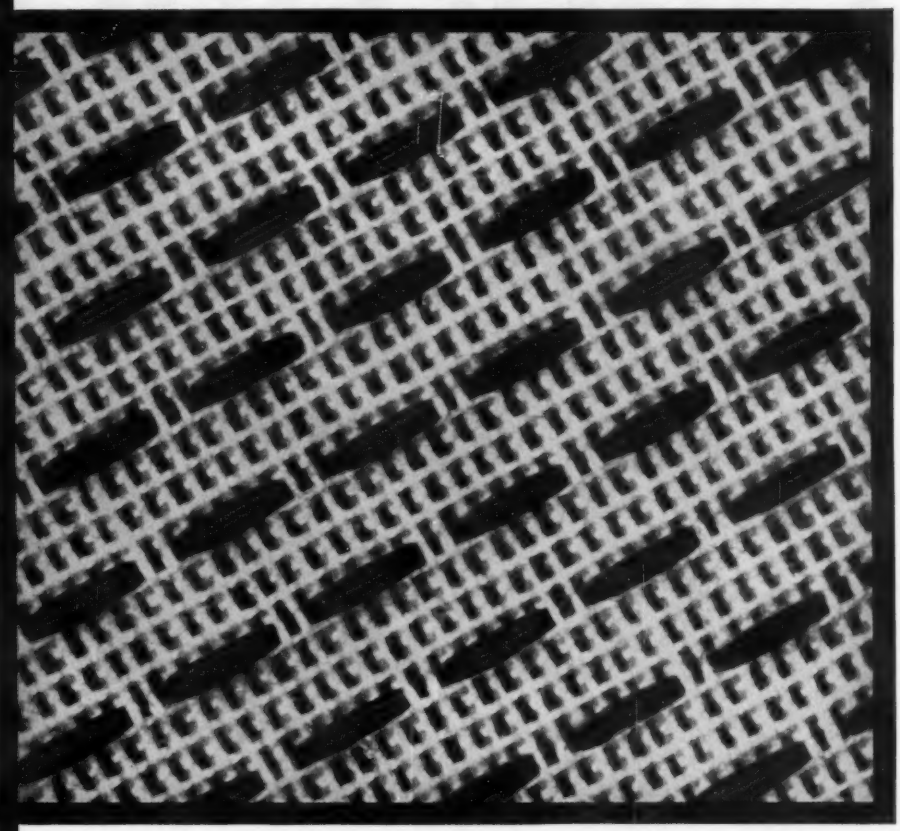
Electric lights should be inspected periodically to make sure protective glass globes and wire guards are in good condition. This inspection is particularly important where flammable liquids or combustible fibers are present.

Equipment Must Be Right

Other general classes of equipment such as generators, transformers, circuit breakers, and lightning arrestors operate over long periods without giving any trouble; however, scheduled periodic inspections are important because failures could cause unusually serious power interruptions.

Fire safety actually starts with the

The Close-up of Construction



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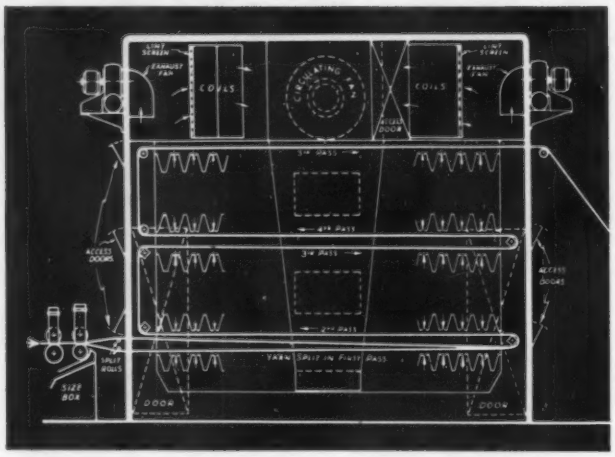

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design of the equipment itself. Purchase only equipment approved by recognized testing laboratories or produced by reliable manufacturers. Install it in accordance with accepted electrical codes. Use special equipment for hazardous locations. Operate the equipment with reasonable care. And finally, inspect and maintain the equipment properly. *Factory Mutual Record.*

[*When the checklist for preventing electrical fires is compared closely with the best practices for keeping electrical equipment in good condition generally, both checklists are remarkably similar.*—EDITOR]

Uneven Yarn

CONTINUED FROM PAGE 81

9. Thread-guide and spindle settings not true

Thread guides and spindles that are off-set create different yarn tensions, which cause uneven twist and yarn appearance. The spindle should be spot-checked with a full bobbin of yarn, and the spacing between the bobbin and the ring noted. This method is advocated for section hands fixing back ends. Spindle plumbers setting by plug do so at fixed levels, but the section hand can accomplish good results with the bobbin method. Certain types of ball-bearing spindles are set when the frame is stopped. When too many back ends occur from off-set spindles, the whole frame of spindles should be set at once by the spindle plumbers.

In checking the thread guides, the guide setter is placed on the spindle and the guide adjusted to rest lightly against the guide-setter pin. The yarn is then being delivered over the exact center of the bobbin without undue tension.

10. Steel-roll laps

A back steel-roll lap on the flutes that is not instantly cleaned will continue to pick up fibers from the roving strand as it passes through the feed rolls and cause weak, uneven yarn. As the lap increases in diameter, it raises the other boss on the top roll, causing a loss of break draft and a heavy, uneven yarn. Back rolls should be constantly inspected.

11. Plugged aprons

Excessive accumulation of lint in the aprons soon creates enough pressure against the apron and apron pin to impede smooth running. The end may break down often or come through uneven. Spinners should be

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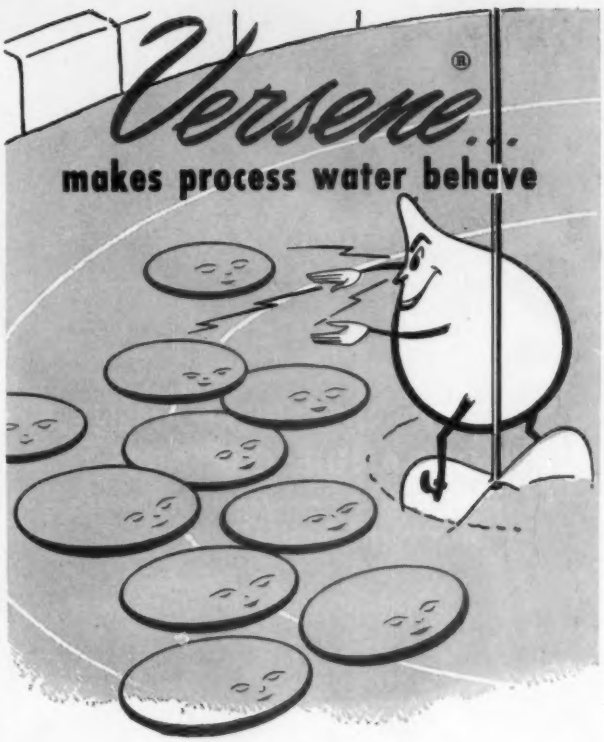

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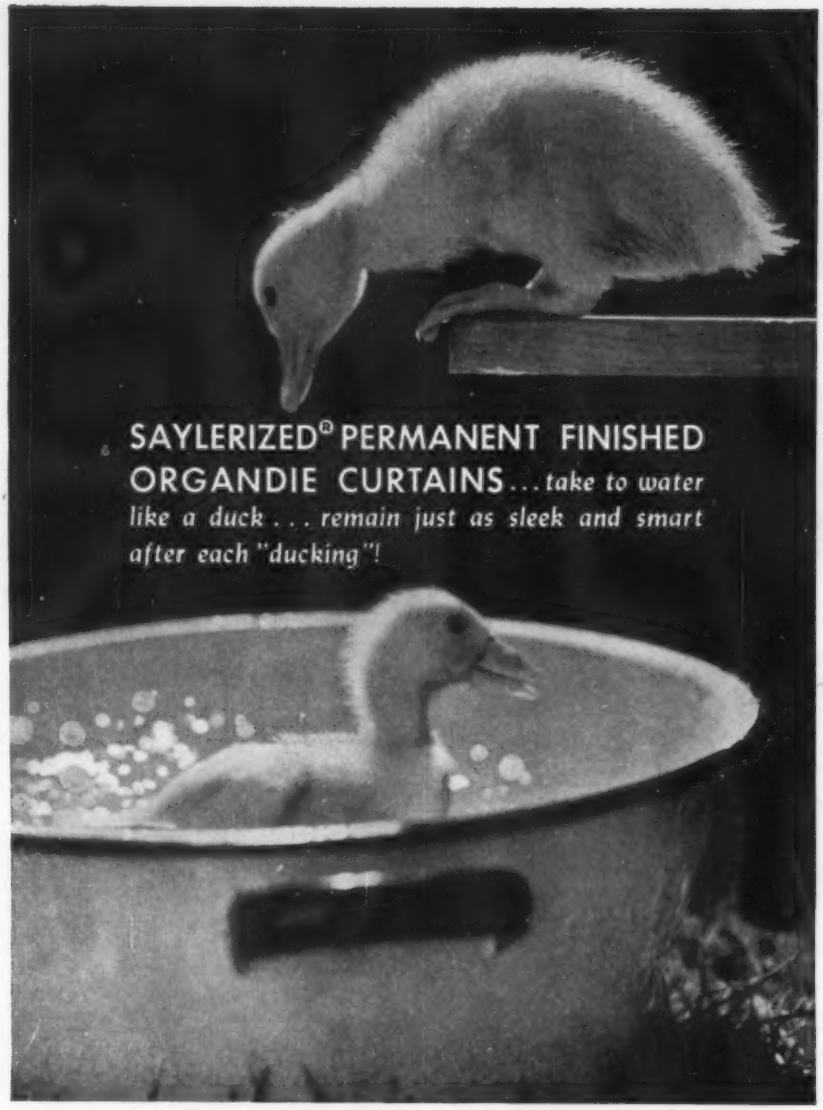
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on the lookout for indications of choked aprons and either remove the choke or flag the section hand before the apron breaks or bad yarn is made.

12. Long roving piecings

One of the causes of coarse yarn is long roving piecings. If a 6-in. tailing is allowed to draft through with new roving being creeled, a coarse end 90 ins. long is spun from single roving with a draft of 15.

Where double roving is used, the end from the roving run-out should be attached to the other roving, the new roving bobbin placed in the creel, and both ends lightly twisted together with the shortest possible tailing. Where single roving is used, the end should not become entangled or snarled.

13. Bent steel-roll sections

Bent steel rolls should be removed at once. A bent section creates eccentricity of roll rotation, which interferes with positive gripping of the fibers. The drafting angle constantly changes. Uneven yarn will occur unless the bend is corrected at once.

14. Worn gearing

Worn gearings or gearing with broken teeth will cause roll vibration or backlashing that results in uneven yarn. A broken tooth in the drafting chain will cause light and heavy places in the yarn. Inspection of all gearings, both in the head end and drafting chain, should be periodically made.

Human Relations

CONTINUED FROM PAGE 77

and the need to defend one's importance. The supervisors discuss these human problems in further discussions.

The last topic discussed before case histories is "Understanding Employees After Understanding Yourself." There is no use in discussing case histories until a frame of reference has been built. The purpose of the discussions is to build this frame of reference. Occasionally, points that have been brought out in discussions are summarized; but the purpose of the program is not to memorize facts.

Case histories are developed from actual situations. The mill lets time elapse before presenting a case or just switches plants. But the problems involved aren't spelled out. In one case, no one in the conference recognized that a problem existed; but usually the problem is recognized.

Solutions to human-relations prob-

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the world's most famous elastic yarn—made in a complete range of sizes and tensions for knitting, weaving or shirring elastic fabrics.

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the first extruded latex thread—long a favorite for all types of webbing. Available in regular and in the heat-resistant compound pioneered by U. S. Rubber to meet postwar laundering requirements.

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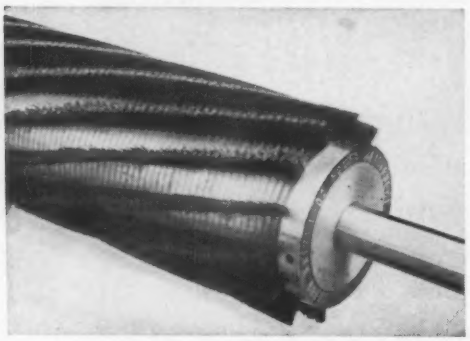

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TRUE RUNNING
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Made completely in our own well equipped machine shop—on the assumption that the brush is only as good as its core. We take great care that the metal core on every industrial brush runs true and without vibration for the life of the core. This eliminates a major cause of streaky finished goods. OUR METAL CORE can be refilled many times, giving service equal to a new brush.

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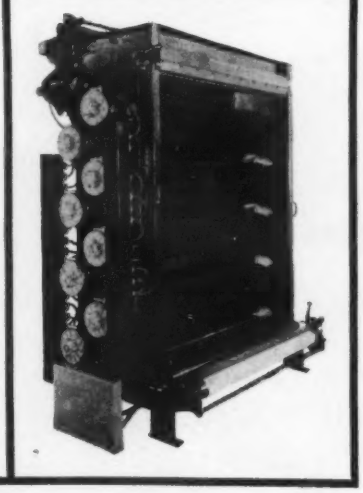
Whether you need a small brush or a carpet brush in excess of 25 ft., we invite your inquiries; write to



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LITTLE FALLS, NEW JERSEY
U. S. A.

lems come from understanding, not just techniques. At this mill, there is no "The Answer" to human-relations problems. The question is, "What is your answer?"

Technical Ability Not Enough

Separate conference sessions are held for overseers and shift foremen, but the program is essentially the same. The overseers get ahead faster because they feel more a part of management. Sessions are scheduled for 1½ to 2 hrs. for the overseer's group and 1 hr. for the shift foremen. But how long a session actually lasts depends on how the discussion develops. Sometimes emotional attitudes get too involved early, and the meeting might be called off after 10 mins.

The success of such a program depends on the caliber of the supervisors. A four-point scale is used to evaluate supervisors: (1) intelligence, (2) human-relations knowledge, (3) technical ability, and (4) what the mill calls "peace of mind." In the long pull, the management thinks conference participation is the best indication of supervisory ability.

The mill policy is, "Technical knowledge is not enough."

Reduced Waste

CONTINUED FROM PAGE 85

ber of neps caused by poor setting by the grinder has been reduced by these inspections.

Drawing

A standard method of creeling drawing frames was worked out. As the front cans run out, the empties are pulled out and the rest of the cans are pushed up. Full cans are put at the back of the creel.

On lap-back drawing frames, new laps are put on when laps run out, the frame tender walks around the frame and picks the clearers, and then he doffs the frame. He pulls enough sliver off the full cans to take out the piecings made when the new laps were creeled.

Turntables in drawing frames were adjusted to get the maximum amount of sliver in cans.

Slubbers

An allowance of ¼ lb. of sliver waste per can per creel was set for slubber tenders. If a can being replaced during creeling has over ¼ lb. in it, the operator must dump it on top of the new can. When the daily weighings of waste are made, the frame tender can see if he has made too much waste in creeling.

Spinning

Spinners were instructed to creel in

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Quality

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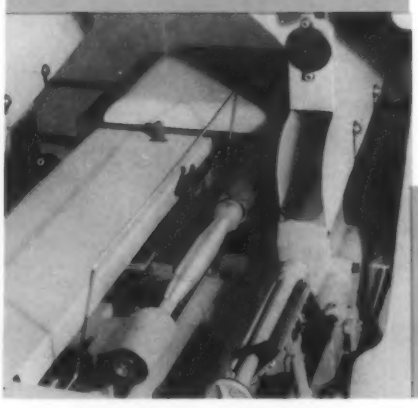
MODEL 66 AUTOMATIC FILLING WINDER

Made in Westfield, Mass., U.S.A.

Superior Winding

Complete machine with automatic pin-boarder and centralized bobbin hopper.

Feelerless build and empty bobbin ready to move into winding position.



ONE OF 8 POINTS OF SUPERIORITY

The bobbins illustrated were selected at random from a day's production of the Foster-Muschamp Model 66. Note the perfect build and the uniformity.

It doesn't matter how fast a filling winder produces or how low its operating cost or investment is; if it doesn't preserve the original quality of the yarn and produce bobbins that deliver properly in the shuttle, its advantages are nullified.

The Foster-Muschamp Model 66 Automatic Filling Winder *does* produce practically perfect bobbins and *does* preserve the original quality of the yarn, because of close delivery thread guide, shock-proof start, simple and effective layer locking device and feelerless build — all with an unequalled spindle speed — 15,000 r.p.m.

Superior winding is only one of many points of superiority of the Foster-Muschamp Model 66. In fact this machine has ALL EIGHT features that are regularly demanded by mills purchasing automatic equipment.

If you would like to know more about these 8 features, write for "Foster Facts — Volume 4 — Number 5".

FOSTER MACHINE COMPANY

A Winder for Every Textile Purpose

WESTFIELD, MASSACHUSETTS, U.S.A.

Southern office, Johnston Bldg., Charlotte, N. C.

a new roving bobbin only when at least one-half the wood is showing on the old bobbin. The bobbin hauler puts bobbins back on the frames if he cannot see half the wood. Bad roving is not charged to spinners; it is given to the section man to straighten up.

Tests on length distribution of fiber in scavenger-roll waste showed that the core was made up of short fibers. As a result, spinners were instructed to pull out the core and put it with the clearer waste. The rest of the scavenger-roll ball is put with reworkable waste.

Each doffer takes one bobbin from each doff and puts it on a pin at the end of each frame and takes down a bobbin placed on the pin at the last doff. The overseer and assistant overseer can tell by looking at the bobbins on the pins what kind of doffs were made.

Filling is spun on quills, and good bunches and good build are necessary. Filling cans at looms are spot-checked periodically to see what percentage of skinned quills are in the cans. A chart that shows this percentage is kept in the spinning room.

Slashers

To make good start-ups on the slasher and reduce waste, the slasher tenders tape both sides of the warp to cut down on the combing necessary and put as nearly as possible even tension on the section beams. Ball bearings are used in the slasher creel.

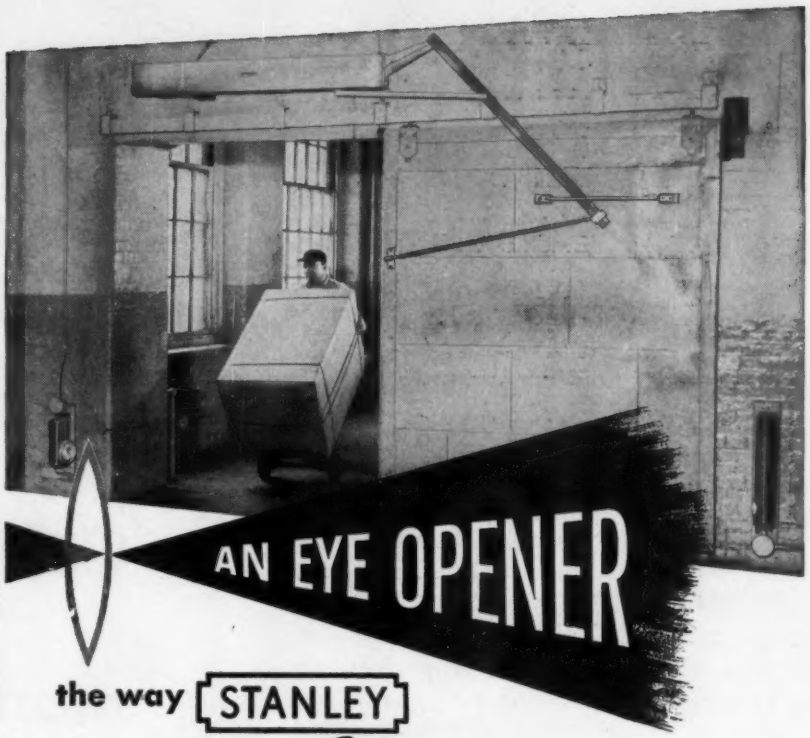
Regulating, Controlling

CONTINUED FROM PAGE 120

► Relative-humidity values can be read at a glance on the automatic hygrometer made by Tesa S. A., Renes-Lausanne, Switzerland. With the hygrometer, the eye notes the position of the top of a manometer column against chart lines on the surface of a Plexiglass tube, from which the relative humidity is directly read to an accuracy of 2% at temperatures from 32 to 113° F. (A-257)

► The development of a centrifugal wet-dust collector for dust-control problems that cannot be solved with cloth collectors was announced by Pangborn Corp., Hagerstown, Md. (A-258)

► A multiple-bobbin attachment for the automatic yarn-strength tester available from Uster Corp., Charlotte, N. C., enables up to 10 bobbins to be tested at the push of a button. The time necessary to make large numbers of break and elongation tests has been substantially reduced. (A-259)



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speed materials flow for TEXTRON

What better proof that automatic opening and closing Stanley Magic Doors will improve your mill's all-round efficiency is there than this — *all* the leading textile manufacturers in the country, including Textron, Inc., Manchester, N.H., have installed them in strategic locations in one or more of their plants.

the reasons may be real eye-openers:

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1. . . . reduce door and truck maintenance. Doors open automatically . . . close swiftly when traffic has passed. There's less chance for trucks to bang into doors that always open on approach!
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4. . . . boost mill personnel morale. Workers are happier and more productive — they appreciate the fact that management is making their jobs easier.
5. . . . can be installed on new or existing doors that *swing, slide, or fold.* A variety of controls, ranging from the photoelectric Magic Eye (at Textron, in the picture above) and Magic Carpet, to pull cords and switches, are available.

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Modern instruments save money

Honeywell engineers are proving this fact every day—in a growing number of plants, on all types of processes. Where out-of-date controls have been replaced by modern Honeywell instrumentation, economy-minded engineers and management men have really opened their eyes. And with good reason, for—

- Modern Honeywell instrumentation saves labor. Centralized control, automatic time-cycle systems, and other recent control concepts save countless wasted steps . . . reduce routine man-hour expenditures.
- Modern Honeywell instrumentation cuts maintenance costs. It affords longer, uninterrupted operation . . . is designed for easy service . . . requires minimum attention.
- Modern Honeywell instrumentation reduces rejects. It maintains the tighter process tolerances demanded by today's more exacting specifications.
- Modern Honeywell instrumentation improves product quality. Precision measurement and control remove any chance of error or guesswork in critical processes.
- Modern Honeywell instrumentation makes cost accounting more accurate than ever before. Everything is a matter of record.

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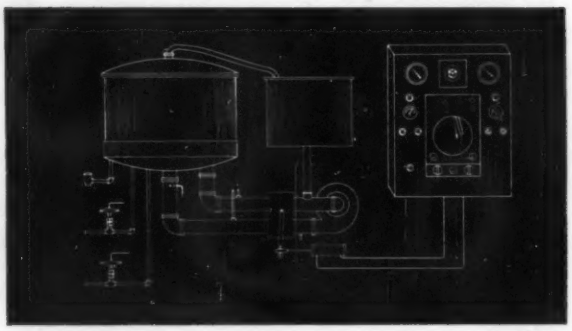
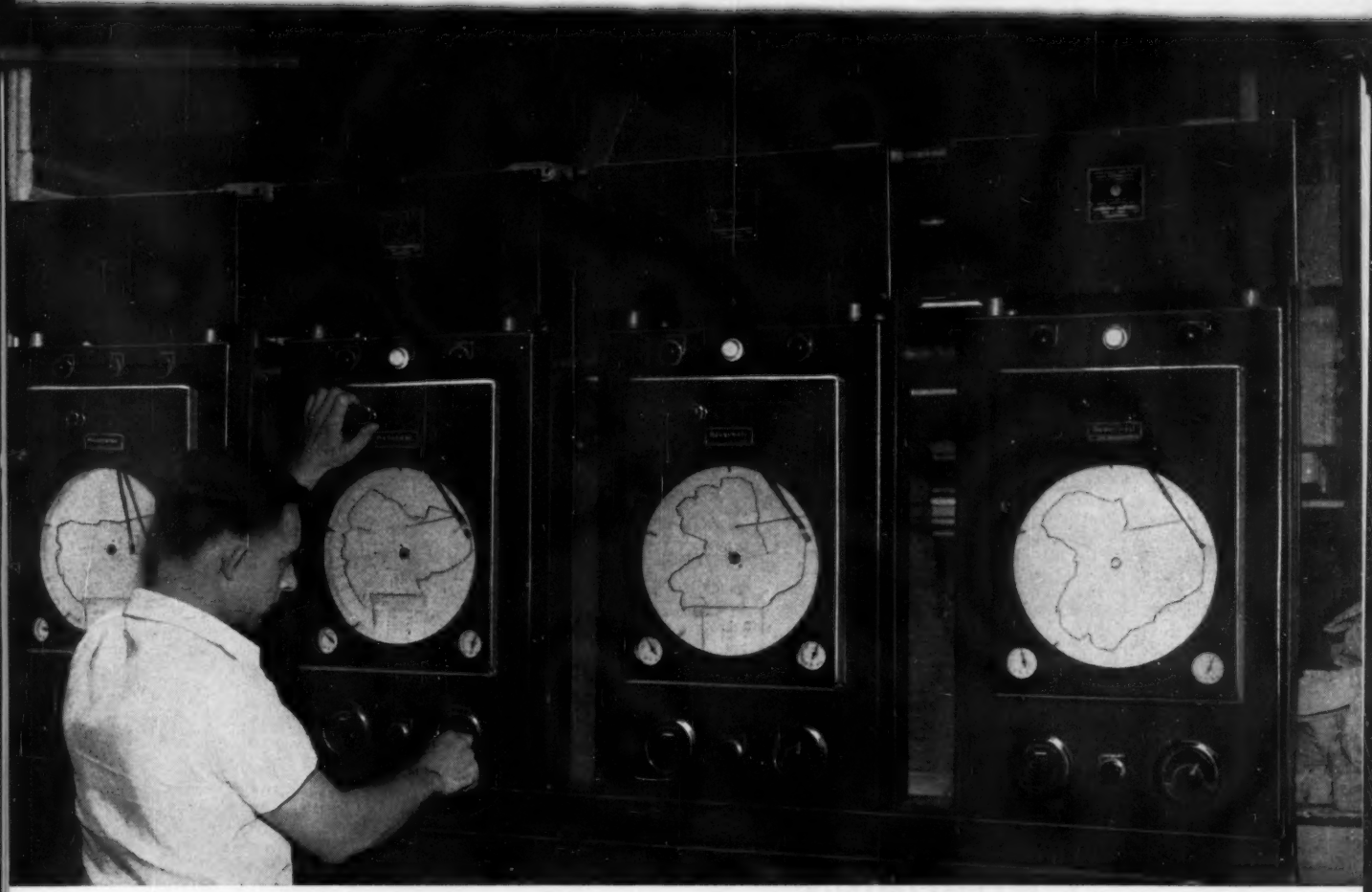
Just being "instrumented" is not enough. You can get more out of your instrument dollar, from both a product and service standpoint, with Honeywell instrumentation . . . the ultimate in engineering and design . . . insurance for your equipment investment.

Replacing with Honeywell is one of the best ways to invest your modernization appropriation. A Honeywell application engineer will gladly survey your present plant instrumentation . . . give you a practical recommendation that will make dollars and sense. Give him a call . . . he's as near as your phone.

Colors controlled more accurately, steam saved *. . . with Brown*



Package Dyeing Control System . . . a complete, integrated unit with all necessary gages, timers and interlocks . . . gives the operator full selection of programming of each cycle. Switchover to manual control can be made simply and quickly whenever desired.



A prominent mill uses these four Dye Kettle Controllers to watch over the dyeing of worsted fabrics. Dyers can readily set time-temperature cycles to get accurate color match when desired, and to assure adherence to prescribed dyeing schedules.

dye temperature program systems

THE GUESSWORK is gone from dyeing when Brown Program Control is on the job. With this simple but versatile instrumentation, the dyer gains fully automatic control over variables which critically affect color quality. He can achieve the exact color he wants on every batch . . . with minimum supervision . . . and at the same time hold steam costs to the lowest level.

By means of a few simple control settings, the dyer selects the rate of heating, holding temperature and process time he wants. The Brown controller then takes over. With no further attention from human workers, it brings the dye liquor up to temperature at the prescribed number of degrees per hour . . . holds it accurately at temperature for the desired time . . . then automatically shuts down the kettle.

This modern way to regulate dye temperature cycles is paying real dividends in many progressive mills. It safeguards quality . . . by maintaining closer limits than could be possible under human supervision. It reduces costs . . . by making the most effective usage of process steam. And it speeds production . . . by taking routine burdens off the dyer's shoulders, and freeing him for more productive duties.

Several types of instrumentation are available . . . the Dye Kettle Controller for piece dyeing, and the Package Dyeing Control System for package operations. Both are complete, factory-assembled systems, readily applied to your own production equipment. For a discussion of how your mill can utilize this up-to-date control, call your nearby local Honeywell sales engineer. He's as near to you as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, Wayne and Windrim Avenues, Philadelphia 44, Pa.

● **REFERENCE DATA: Write for Data Sheet 8.3-1, "Dye Kettle Control System"... and Data Sheet 8.1-12, "Package Dyeing Improved."**

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Technical Service in connection with your specific problems is available upon request.

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CORN PROCESSING DIVISION
CLINTON, IOWA

► The Warren Spectracord automatically scans and records the visible spectrum in less than a minute. Available from Fisher Scientific Co., Pittsburgh, Pa., the instrument can check 170 samples per day. **(A-260)**

► An instrument that measures the quantity of light received over a period of time to obtain data on color changes was announced by Evans Electroselenium Ltd., Harlow, Essex, England. Elements of the instrument are a photocell, a cathode-ray discharge tube, and a counter; the rate of counting is proportional to the illumination. **(A-261)**

► For testing fabrics for strength, a new 200-lb.-capacity Electomatic testing machine was announced by Tinius Olsen Testing Machine Co., Willow Grove, Pa. **(A-262)**

► A laboratory mixer that combines stirring and tumbling actions at a precise speed to yield a homogeneous dry mixture was announced by Fisher Scientific Co., Pittsburgh, Pa. **(A-263)**

► A polarizing microscope for the textile industry features a ball-bearing, low-position, fine-focusing stand. Made by Bausch & Lomb Optical Co., Rochester, N. Y., the instrument also has a Micro-Lite illuminator. **(A-264)**

► A wiring inspector that automatically identifies individual wires in multiconductor cables, conduit, wireways, and terminal boxes is made by Panascan Div., Panellit, Inc., Skokie, Ill. The Cable Inspector will perform, on a group of 100 wires, 10,000 tests of interconductor insulation resistance and resistance to ground in 200 secs. **(A-265)**

► A wool-yarn moisture tester, an electronic instrument that checks the distribution of moisture inside the surface of a closely packed package of yarn, was introduced by Shaw Electronics Ltd., Bradford, Yorkshire, England. **(A-266)**

► A permeometer made by W. & L. Gurley, Industrial Div., Troy, N. Y., measures the porosity of textiles at a pressure drop equal to 0.5 in. of water. It indicates coolness or warmth, predicts the penetration of coatings and the water resistance of fabrics, and measures the compactness of cloth after fulling, washing, sizing, or other treatment. Routine tests are made in less than 15 secs. **(A-267)**

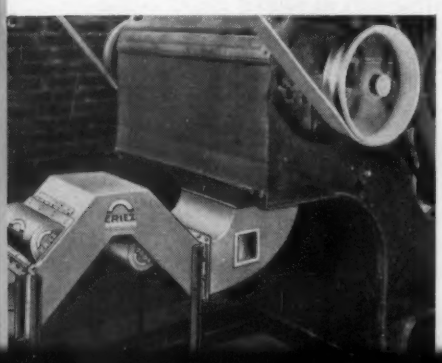
► A laboratory-glassware washer that

For more information, write direct or use Reader Service post card.

OLD IRON PANTS AND THE MAGNET! A lady from yesterday with a metal-ribbed girdle wouldn't be safe next to an Eriez Magnet. She might easily be "hung-up" by the powerful Alnico V action. This idea of herculean power is practically applied in textile processing lines. Magnets remove dangerous tramp iron preventing fires, machinery damage and loss of production in cotton, woolen, rayon and waste mills. *All Eriez Magnets are non-electric, self-contained. They operate without any wires or attachments. Best of all their magnetic power lasts a lifetime. The first cost is the last.*

MAGNETIC IDEAS FROM ERIEZ

TRAMP IRON CAN'T GET OVER THIS HUMP. Eriez Permanent Non-electric Magnetic Humps offer the ideal method of removing dangerous tramp iron from material conveyed in pneumatic lines. The patented Eriez Hump consists of 2 powerful plate magnets in an enclosed sheet-metal housing. The hump design changes the direction of the flowing material, creating a mixing or tumbling action. This directional change of the moving material allows the magnets to catch and hold spark-producing tramp iron. Eriez Magnetic Humps bear the Associated Factory Mutual Stamp of Approval for installation in textile mills, and are heartily endorsed by insurance companies as a means of reducing mill fires caused by tramp iron. Want more information? . . . request Bulletin 563.



ERIEZ

ERIEZ SPIKED-APRON MAGNET SPIKES METAL DAMAGE. Lawrence Garnet Co., Lawrence, Mass., produces garnet specialties of silk and worsted, white worsted and merino. As a precaution against tramp iron damage to the machines, Eriez Spiked-Apron Magnets were installed in the feeder boxes. This step proved highly successful, and the magnets removed large quantities of knitting needles, pieces of spindles, ring travellers, etc., from the processing lines. Previously, any metal such as this would put the machine out of use for days or even weeks, seriously curtailing production. So efficient were the magnets in preventing tramp iron damage, thus saving thousands of dollars, that when the company recently installed new machinery, it would not use it until Eriez Permanent Magnets had been added.

ERIEZ MAGNET IS WATCHDOG FOR THIS FLOCK. Cellusuede Products, Inc., Rockford, Ill., manufacturer of rayon, cotton and hair flock, protects its reputation and costly cutting knives with an Eriez Plate Magnet that pulls dangerous tramp iron from the raw material before it reaches the knife blades. The finished flock, used as a coating material for textiles, paper, metals, etc., and as a reinforcing material to strengthen rubber and plastic compositions, *must* be entirely free of metal contamination. Since installing the magnet, there has been no trace of stray metal, no damage to knives by tramp iron.

Eriez "Magnetic Ideas" can help you. Eriez' factory-trained field men, backed by Eriez' laboratory and engineering know-how, will be happy to study your particular problem, make a plant survey and offer helpful "Magnetic Ideas". Write or call Eriez Manufacturing Company, 101P Magnet Drive, Erie, Pa.

6 TIMES A YEAR is only buffing needed for this Tennantized weave room floor.

3 REASONS WHY YOU CAN NOW

Save 30% to 60% in Floor Maintenance Costs

Important NEW improvements in the TENNANT System now make it possible—a saving of 30% to 60% in floor care costs annually, compared to 5 years ago. Here's why, as reported by many mills:

1. You use 50% less manhours today in cleaning a TENNANT-treated floor because its dirt-resistance has been almost tripled. You buff only 1/5 to 1/10 as often . . . need only a dry mop for daily cleaning.

2. Floor seals last 4 times longer today because they are more wear-resistant, stand up better under oil, grit and dirt. Bright, lustrous finish is easily renewed without need for sanding.

3. You save time in problem areas, like weave rooms, with new TENNANT materials that resist humidity, starch, discoloration, etc. Saves manhours (see photo above). *Write today for details; ask for estimate of savings possible in your mill.*

TENNANT
ESTABLISHED 1870

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2586 N. 2nd Street
Minneapolis 11, Minn.

FLOOR MAINTENANCE SYSTEM

handles a wide variety of glassware from oversize graduates to micropipettes, including odd-shaped funnels and flasks, was developed by Fisher Scientific Co., Pittsburgh, Pa. (A-268)

► An air permeability tester that measures fabrics at pressure differentials up to 20 ins. of water was developed by Sherman W. Frazier, Washington, D. C. A new fabric clamp is provided to test 1 sq. in. of fabric. (A-269)

► An automatic evaluator to give a direct reading with the uniformity analyzer was developed by Brush Electronics Co., Cleveland, Ohio. It is applicable to all new and modified analyzer units. (A-270)

► A redesigned recording spectrophotometer for setting standards to control the color of dyes and fabrics was announced by General Electric Co., Special Products Section, Schenectady, N. Y.

The instrument furnishes rapid color analysis by drawing a complete didymium curve in 34 secs. (A-272)

► A yarn-strength tester automatically makes 100 tests in about 90 mins. and then cuts off. Made by Henry Baer & Co., Zurich, Switzerland, the instrument handles yarn with breaking strength up to 13.2 lbs. (A-273)

Yarn Production

CONTINUED FROM PAGE 103

Redesigned Roll Picker

A new 12P series of roll pickers for removing lint and fly from spinning and roving frames was announced by Keller Tool Co., Grand Haven, Mich. The pickers weigh only 11 oz., which is 30% lighter than previous models; so handling is easier and operator fatigue is reduced. They are available in five different lengths between 6 and 14 ins. (A-274)

Slub-Yarn Attachment

The slub-yarn attachment made by Ferguson Gear Co., Gastonia, N. C., can be mounted on any make of spinning frame to produce slubs in cotton, spun synthetics, wool, or any combination of those fibers.

A pattern chain is used with pins to control the position of the slub. By inserting pins in various places in the chain, any regular or irregular pattern of slubs can be put into the yarn. (A-275).

Drafting Mechanism

A drafting mechanism announced by Spintex GmbH., Munhardt, Wutt-

For more information, write direct or use Reader Service post card.

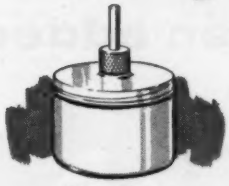
You name it-MOYNO® pumps it!

Foods

Potato salad, chow mein, peas, cream-style corn, tomatoes, molasses, chocolate.

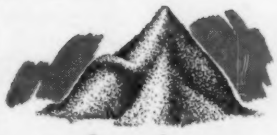
Chemicals

Caustics, acids, dyes, petroleum solvents, soaps, sludges, latex, synthetic resins.



Pastes

Paper coating, starch, seam paste, size, adhesive dope, heavy grease, graphite sludge.



Abrasives

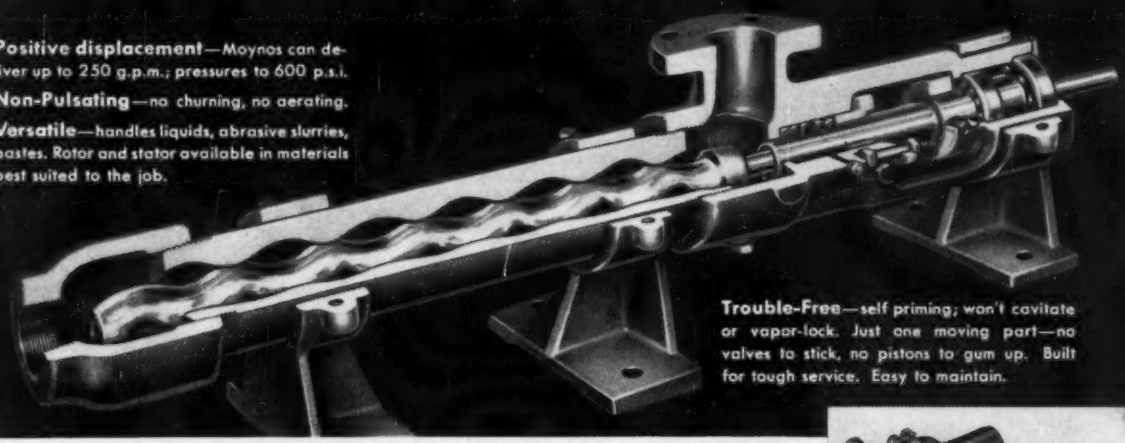
Insulator clay, frit, ground glass and water, porcelain glaze and enamel, cement, plaster.

FEATURES OF THE MOYNO THAT MAY SOLVE YOUR MATERIALS-HANDLING PROBLEM

Positive displacement—Moynos can deliver up to 250 g.p.m.; pressures to 600 p.s.i.

Non-Pulsating—no churning, no aerating.

Versatile—handles liquids, abrasive slurries, pastes. Rotor and stator available in materials best suited to the job.



Trouble-Free—self priming; won't cavitate or vapor-lock. Just one moving part—no valves to stick, no pistons to gum up. Built for tough service. Easy to maintain.

R & M Moynos handle almost anything that can pass through a pipe

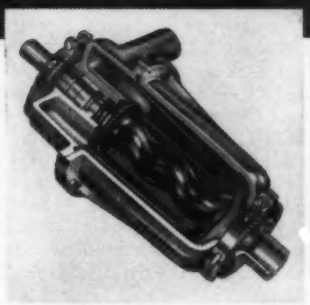
The Moyno is a problem-solving pump. And whether your problem is one of materials, maintenance or flow, there's a better-than-even chance that the Moyno is the pump you're looking for.

Here is a completely different kind of pump that handles almost anything that will push through a pipe, from free-flowing liquids to non-pourable pastes—even materials containing relatively large particles or abrasives.

This is how the Moyno works: a screw-like rotor turning within a double-threaded stator creates cavities which *progress* toward the discharge end of the pump, carrying the material being handled. The result is a smooth, steady flow, free from pulsation and turbulence.

The pumping elements of the Moyno are available in a wide range of materials, depending upon the substances to be pumped. From stainless steels and synthetic rubber to tool steels, bronze, plastics—there is a Moyno that will do the job you want, and do it with remarkable efficiency.

Industrial-type Moynos are available with capacities to 250 g.p.m.; pressures to 600 p.s.i. Small Moynos (see inset), used as original equipment, serve on washers, water pumps, sprayers, and many other products.



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Tell us your pumping problem—let's see how the Moyno can help solve it. If necessary, we'll be glad to run tests for you in our own laboratories. In any case, get the details on the Moyno—mail the coupon below.

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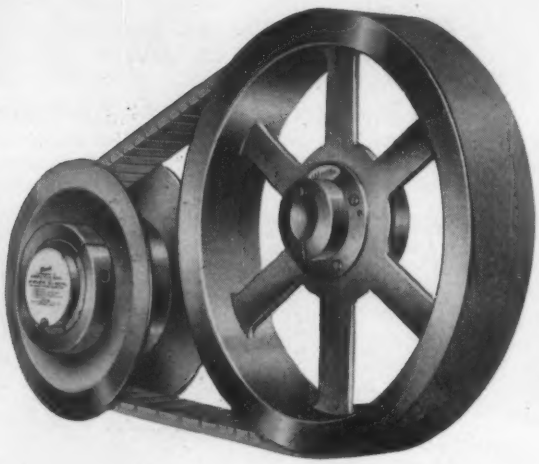
and now a NEW smaller variable speed drive has been added



for drives from 1 to 5 hp speed range ratio up to 2 to 1

Here is a small rugged Variable speed drive made with the same proven construction of Wood's standard variable speed drives.

Just look at these features!

DESIGN — Both flanges move simultaneously by a single adjusting screw to change the pitch diameter.

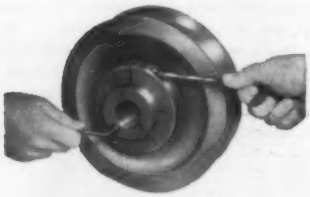
POSITIVE LOCKING — Simplified design provides positive clamping of the two adjustable flanges eliminating fretting corrosion. Flanges are quickly and easily released for making speed changes.

HIGHER EFFICIENCY — Single wide range belt gives maximum HP efficiency. Eliminates problem of maintaining matched belts and matched grooves for equal power distribution.

LESS SHAFT OVERHANG — Single belt design reduces weight and space required.

NO LUBRICATION — No grease fittings or oil cups, therefore, no preventive maintenance needed.

For more detailed information, write to T. B. Wood's Sons Co.



So easy to change speeds. Just loosen both split collars and turn adjusting screw from either side. With the speed chart furnished you can adjust the sheave to the desired speed without trial and error.

Be sure to write for Variable Speed Drive Bulletin #497. Gives complete information on how to design and select variable speed drives from 1 to 20 HP.

T.B. Wood's SONS CO. CHAMBERSBURG • PA.

Mechanical Power Transmission Manufacturers Since 1857

Cambridge, Mass., Newark, N.J., Dallas, Tex., Cleveland, O.

burg, Germany, and distributed in the U. S. by Lenkotex Co., Inc., New York, N. Y., has an SKF pendulum weighting arm and upper-apron cradle. Normal draft is 16 to 25 with cotton fibers to 1½ ins.; but with a special cradle, fibers up to 2⅜ ins. can be spun. With a special arm, drafts of 28 to 40 are possible on cotton and rayon. (A-276)

Fibre Coiler Tube

Four features of the fibre drawing-frame coiler-tube mechanism developed by Ideal Industries, Bessemer City, N. C., are:

1. Because it does not ride on the spectacle, the mechanism prevents drag and permits high speeds.
2. The coiler gear does not require oiling; so there is no oil to contaminate stock.
3. Fibre does not generate static, which causes trouble in running synthetics or blends.
4. Within the limitation of the frame gauge, the standard coiler gear can be used for any size of can. (A-277)

End Collector

A pneumatic suction device for tape condensers on woolen cards was developed by The Thoma Co. and made available in the U. S. by Stellite American Corp., New York, N. Y. Called Card-Tho-Mat, the device has a rubber collecting nozzle for every end. Each broken end is collected by its own nozzle and carried through a suction duct back to the feeder. (A-278)

Waste and Staple Cutter

A combination thread-waste and staple cutter was introduced by Taylor, Stiles & Co., Riegelsville, N. J.

The thread waste or continuous filaments are fed on a feed apron to the feed rolls, which are made in various combinations depending on the material to be cut. They can be deep fluted, knurled steel, or stainless; the top roll can be hard or soft, natural or synthetic rubber, with a smooth, steel bottom roll. (A-279)

Roving Frame

A 12x6½-in. roving frame, called the Hi-Pro, was introduced by Whitin Machine Works, Whitinsville, Mass. It produces bobbins with up to 55 oz. of yarn per bobbin. Because of new flyers, the speed and production exceed previous standards. (A-280)

BORDEN . . . *for "personalized" textile polymers*

The smart outfit that this pretty miss wears so well illustrates but a few of the possible uses for Borden's POLYCO emulsion polymers in the textile industry. At POLYCO, resins are "personalized" to fit many specific applications. For example, vinyl acetate copolymer, Polyco 508-W, was developed for the warp-sizing of synthetic yarns. Likewise, Polyco 497 was developed for fabric finishes which are highly resistant to water spotting. The former, an ammonia salt which is readily soluble, is very important to the non-woven fabric field. Whether you require a special finish, coating, sizing or binder resin, you can be sure that Borden can supply the right polymer.

Borden's POLYCO Department is continuously seeking new emulsions that will improve processes and products not only in the textile industry but also for industries like adhesives, paint, paper, leather, drug and household products. Thus, when you bring a particular problem to Borden there is available a broad base of polymerization experience that you can depend upon. POLYCO Research and Technical facilities are at your disposal. *A booklet* "POLYMERS FOR TEXTILES" *is available on request.* If you would like to talk to a technical representative, write: The Borden Company, Chemical Division, POLYCO Dept. TW-25, Peabody, Mass.

EMULSION AND SOLUTION POLYMERS
ADHESIVES * CASEIN * RESINS

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THE *Borden* COMPANY
CHEMICAL DIVISION

Guard your goods with these protective, economical Bemis coverings...

Laminated Yardage, Laminated Sheets, Laminated Tubing, Laminated Bale Caps — Durable burlap laminated with a waterproof adhesive to heavy creped kraft paper or other linings . . . a really tough, serviceable protection.

Tite-Fit Tubing — The spiral-sewn burlap tubing with 2-way stretch; sturdy, economical, fast to use.

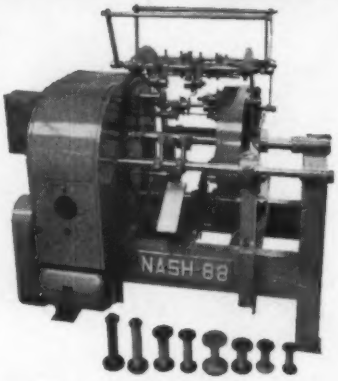
Paper Rug Covers — This double-wall tubing enables rug manufacturers to cut packaging time as much as 50 percent.

Write for complete information about Bemis protective covering for bales and rolls . . . or ask the Bemis Man to help you work out the most economical, efficient solution to your problem.

Bemis BEMIS BAG CO.

"Neither SPINS Nor WEAVES"

Yet Essential for True QUALITY Production! . . .



This NASH 88 Automatic Bobbin Refinisher produces no yarn or fabric — but it does prevent the defects in spinning or weaving due to rough bobbins.

HOW IT FUNCTIONS . . . The NASH 88 refinishes throwing and twisting bobbins at the rate of ten pieces per minute. It provides controlled abrasive action on the barrel, inside flanges, and over top radius of flanges. Burnishes inside surface and top radius of fibre flanges. Removal of all roughness prevents tearing of filaments from rough bobbins. Cleans as well as refinishes.

NASH SPECIAL FINISHING MACHINES SINCE 1890

J. M. NASH Company

2364 N. 30th Street • Milwaukee 10, Wisconsin

Roll-Stand Drill Jig

A drill jig developed by Roberts Co., Sanford, N. C., aids close control of front-roll-neck lubrication.

Installation of grease fittings is possible while the stands remain in place. The drilling operation is speeded up, and time is saved in relocating and packing the roll stands. The electric drill is advanced smoothly through a hardened drill bushing. All roll stands on an average frame can be drilled in less than an hour. **(A-281)**

► A new Model K mixing feed table was developed by Whitin Machine Works, Whitinsville, Mass. The tables incorporate fabricated steel, antifriction bearings, an improved drive, and a more-attractive appearance. Production and working principles are the same as older models. **(A-282)**

Twisting, Winding

CONTINUED FROM PAGE 106

Cone Winder for Ban-Lon

A special-model 102T cone winder was announced by Foster Machine Co., Westfield, Mass., for use in the Ban-Lon process for making crimped nylon-filament yarn. The crimping device, which is attached to the winders, is furnished to Ban-Lon licensees by Joseph Bancroft & Sons Co., Wilmington, Del., which controls the process.

After crimping, the yarn is drawn out of the top of the stuffing tube over a stop-motion drop wire. After passing the drop wire, the yarn goes through the traverse guide and is wound onto an increased-taper, 3° 30′ knitting or warping cone; 70-den. yarn can be processed at 250 yds. per min. to give a production of almost 2 lbs. of crimped yarn per spindle per 8-hr. shift in one continuous process. **(A-283)**

Weaving

CONTINUED FROM PAGE 108

Loom Let-Off

A new let-off, said to be adaptable to all types of looms and all types of warps, was announced by Southern Loom Development Co., Greenville, S. C.

The let-off is a resistance-type let-off and operates like an automobile brake. The take-up pulls the warp, and the let-off simply maintains the proper tension on the warp. Tension control comes from a tension roll added to the drag-roll assembly. On regular weaves, warp tension is controlled di-

help!

That's what Morton gives you if you want to know about the best salt... the best salting method... to use in your plant

Almost before you can say, "Why didn't I think of this a long time ago?" we can dispatch a Morton Consulting Engineer in your area to your plant. He's an expert in all things relating to salt. Best of all, his services don't cost you a cent—and they may save you many hundreds of dollars.

Whatever your salt needs are, Morton can fill them promptly and economically. Only Morton has nine strategically located plants to serve you. And only Morton can offer fast delivery from a bag to a trainload, at favorable prices and freight, *anywhere* in the country.

Textile men! If you want the right kind of advice in planning a new brine installation for your plant, or in converting an old one, call on Morton. One of our Brine Specialists will help your engineers plan the most efficient and economical installation for your particular needs.

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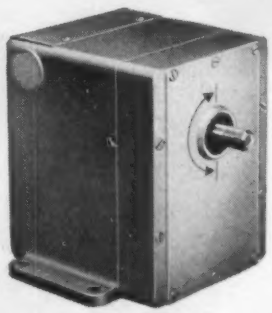
NEW SPRING RETURN

Control Motor

- Compact, modern design — developed specifically for damper operation. Mounts anywhere, in any position.
- Instant acting—on fan applications, has damper open before fan reaches top speed.
- Two-position — opens damper wide, or closes it tight.
- Integral Spring — built-in. Cannot slip or unwind when installing or servicing.
- Oil-submerged mechanism housed in die-cast case for lifetime lubrication, minimum maintenance, utmost reliability, safe heat dissipation.



- Full 180° travel—with highest torque at ends of stroke.
- Friction clutch absorbs shocks, prevents damage to gears.

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NEW BULLETIN, F-6800, now available. Consult nearby Field Office, or write us.

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DURANT DOFFMETER

Model 3-DM
Alaska Gray and
Seal Brown finish

Specifically Designed
for LOOM APPLICATIONS

The Durant Doffmeter is a compact, predetermined counter designed to cut off the loom or signal when the preset number of yards is reached. Eliminates cut marks and waste ends by assuring uniform yardage . . . simplifies inventory control.
Present day high costs make the installation of Durant Doffmeters on every loom a practical money saving investment. Plan now . . . write or contact us for detailed information.

DURANT MANUFACTURING CO.
1931 N. Buffum St., Milwaukee 1, Wis.
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Representatives in Principal Cities

ELIMINATE OVERRUNS
Warns operator or stops machine when run is completed. Yes — eliminates annoying underruns, too!

UNIFORM LENGTHS
Easy, accurate way to assure uniformity in lengths of cloth or yarn.

MAXIMUM PRODUCTION
A Durant Doffmeter takes the responsibility — operator can do other work.

Send for Catalog No. 501

PRODUCTIMETERS SINCE 1879 *Count Everything*

rectly from the whiproll lever as on conventional let-offs. (A-284)

▶A handloom to produce experimental patterns was developed by Walter A. Simond, Essex Junction, Vt. Nine drawings, two dimension sheets, and other instructions cost $7. The loom is 36 ins. wide. (A-285)

Set-Mark Preventer

A set-mark preventer, said to reduce or completely eliminate set marks in twills, sateens, Bedford cords, and other weaves, was introduced by Dill Loom Adapters, Inc., Greenville, S. C., at $45 per loom.

The device is applied to loom dobbies by bolting it onto the two dobby sides. The set-mark preventer lifts the lower harnesses of the warp shed when the loom stops. (A-286)

Protector-Rod Tension Control

A weight-loaded device attached to the protector rods of Draper looms is said to eliminate the need for springs. The manufacturer is Southern Loom Development Co., Greenville, S. C. The device fastens over the protector rod and controls the protector rod by the inertia of the loom lay as the lay accelerates and decelerates.

Because the load of the weight is released at the time the loom picks, there is no protector-rod tension on the shuttle boxes when the shuttle leaves the shuttle boxes. But when the shuttle enters the shuttle box, the weight has changed its position and the binder presses against the incoming shuttle to check it. (A-287)

Pick Packer

A new attachment for packing filling yarns tightly into warp yarns is said to be applicable to all types of looms.

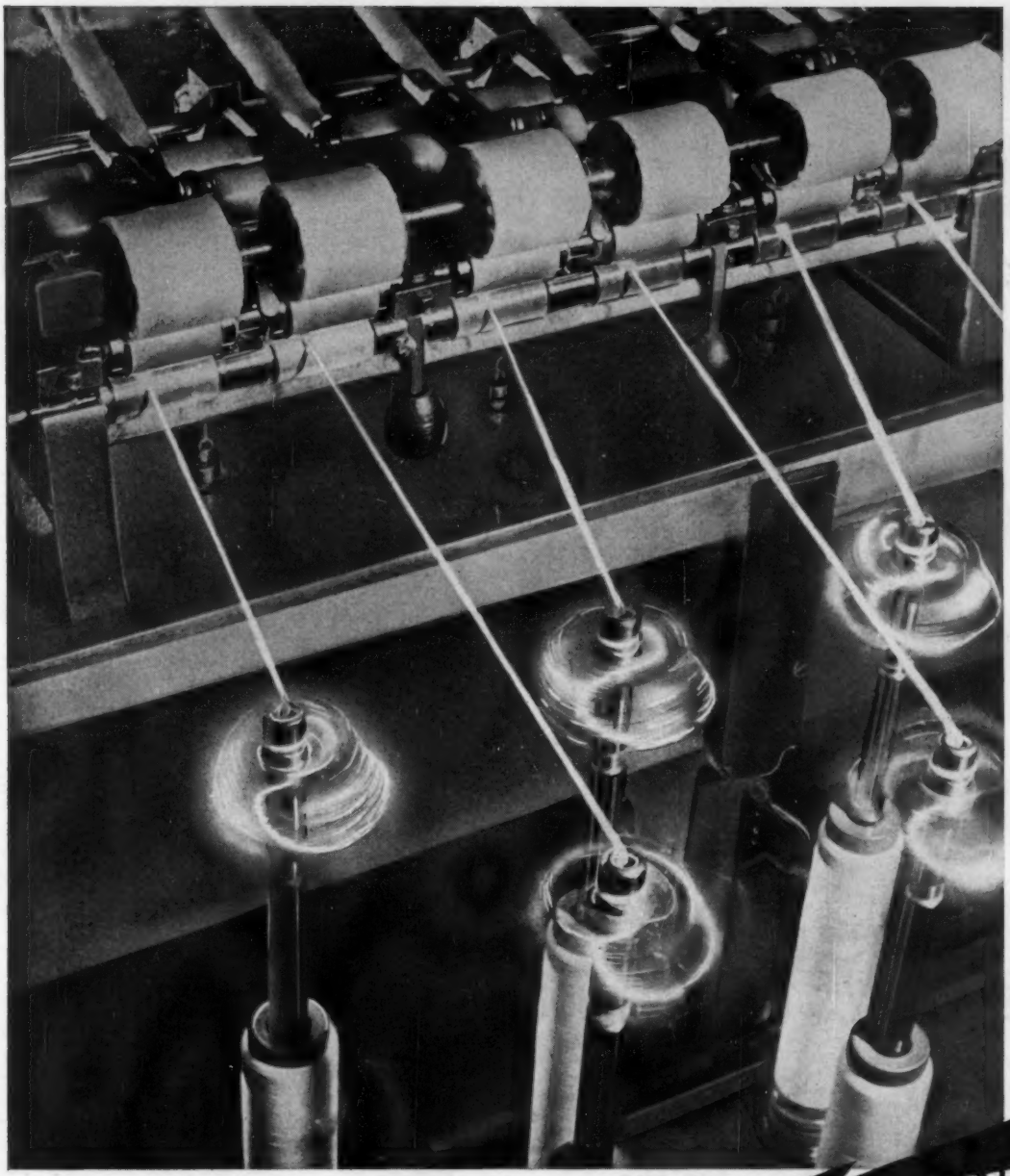
Southern Loom Development Co., Greenville, S. C., has tested the device on tire-cord fabrics, duck, and other heavy types of goods and claims that filling can be tightly packed into the fabrics with constant control of both crimp and stretch. (A-288)

Knitting

CONTINUED FROM PAGE 110

Sinker-Top Machine

Garments with a knit-on cuff that can be separated by a draw thread are made on a new sinker-top ma-



BORNE-STAT means "STATIC CONTROL" at Low Cost!

BORNE SCRYMSER Since 1874

Our Laboratory Facilities are always at your disposal

Today—mill after mill acclaims BORNE-STAT as a cost-cutting "anti-static" concentrate. For when 1%-2% BORNE-STAT is added to Textile Fibers both Natural and Synthetic—the uniform result is superior static control at low cost.

Get all the facts! *Learn how BORNE-STAT will help you cut costs and increase production. Write for full particulars now.*

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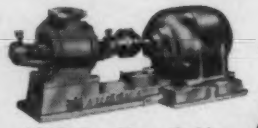
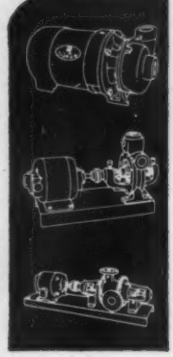
Better on "1001" Pumping Duties

Capacities to 150 G.P.M.

Heads to 500 Ft.





APCO Two-Stage Turbine Type Pump for High Pressure Service

Apco—the pump with but one moving part, the impeller — is famous for long-lived, efficient performance on small capacity, high head duties. Available in Single Stage, Two Stage and 4-Stage Tandem for high pressures — and Water Jacketed for high temperature and highly volatile liquids.

Write for Bulletins 111, 111-A, 111-WJ

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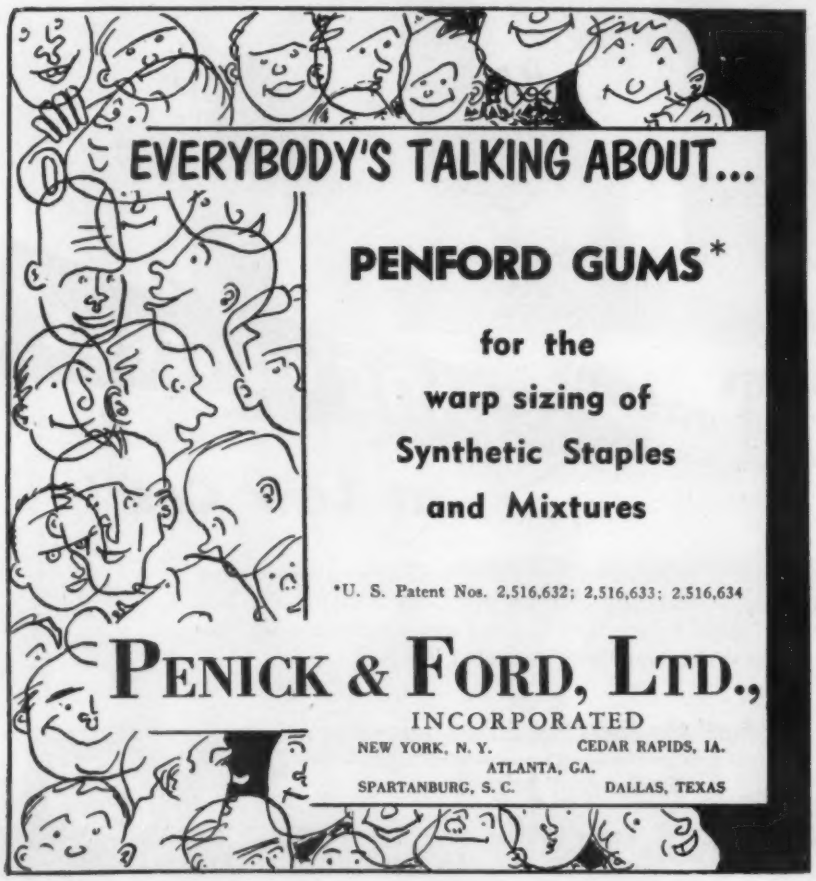
AURORA PUMP DIVISION

THE NEW YORK AIR BRAKE COMPANY

31 LOUCKS STREET AURORA • ILLINOIS



chine announced by Supreme Knitting Machine Co., Brooklyn, N. Y. The machine is Model SAAF-O.

The body can be knitted in plain-jersey, variable-stripe, colored pattern, and textured effects. The machine has a 128-end tiered yarn stand.

The machine can be made with as many as 20 needles per inch, and 38 yds. of garment bodies can be made each hour. Two bodies or four sleeves can be cut from fabric off a 26-in.-dia. machine. (A-289)

Tuck-Stitch Machine

A circular underwear machine announced by Mellor Bromley & Co. Ltd., Leicester, England, has a two-tier cam-box construction. Feeds have been increased from 8 to 10 to increase production.

Two-tier construction makes the jacks more accessible. Auxiliary feeds may be installed at the selector-unit positions to lay in rubber yarns. Swing clearing cams are provided at all feeds but two. The dial clearing cams can be withdrawn manually to the tucking position. (A-290)

►A cleaner for knitting needles, sinkers, and dividers was developed by Richmond Oil, Soap & Chemical Co., Philadelphia, Pa. It is said to be effective for the removal of size. (A-291)

Preboarding Machine

A new type of heat-setting machine, called a plasticizing machine, for finishing nylon hosiery has been introduced by Nylo-Plas Ltd., London, England. The machine can be operated by male or female labor to process 40 doz. pairs of stockings per hour.

The machine is constructed on the conveyor-belt principle. Three operators are required. Any time after dyeing, the stockings are placed on upright metal forms and pass through a spray box where water or an anti-snag chemical may be applied. (A-292)

Striper Attachment

A striper attachment for circular-knitting machines was introduced by Leighton Machine Co., Manchester N. H. The unit is supplied assembled and can be readily attached to or detached from each feed. The attachment can be adjusted to give two-, three-, or four-finger striping on each feed. (A-293)

SHELLMAR-BETNER HAS A GIFT FOR MAKING YOUR PRODUCT LOOK GIFT-WRAPPED

Put your sheets, shirts, hosiery, sweaters and other textiles in a Shellmar-Betner see-thru package*—and presto—they're all dressed up for more attention at the retail counter. They're never shopworn, even after handling by customers. Retailers and shoppers alike appreciate their crisp, clean, colorful look.

The sheet package above is only one example of hundreds of different packages that Shellmar-Betner master craftsmen make for the textile industry. For better flexible packaging, call Shellmar-Betner.

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cellophane,
polyethylene,
acetate
and vinyl

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Our Fiftieth Year
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Packaging

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Model 3-408-16 Rigid fork caster with thread guards
Model 3-427-16 Swivel fork caster with thread guards
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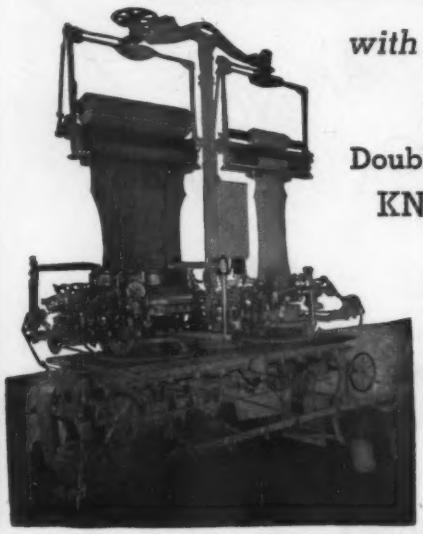
BIG WEEKLY SAVING PER OPERATOR



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TOMPKINS D-2

Double Head Spring Needle

KNITTING MACHINE

New stop motions and furnishing wheels provide the profitable answer to reducing cloth imperfections and needle breakage—imperfections are caught before they get into the cloth! Actual installations are showing remarkable savings in knitting various types of material. SOME MILLS CLAIM THEY HAVE CUT PRODUCTION COSTS IN HALF . . . OTHERS REPORT SAVINGS UP TO $600.00 PER WEEK PER OPERATOR, over old machines. All this PLUS AN IMPROVEMENT IN FABRIC QUALITY!

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LET US SHOW YOU THIS MONEY-MAKING MACHINE IN PRODUCTION

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Inspecting Machine

An automatic inspecting machine that can be used in hosiery mills using the Dunn system or conventional finishing methods was developed by Southern Textile Machine Co., Paducah, Ky. The new machine reduces inspectors' manual work.

When seamers lay stocking welts level on the trays, the inspector can boost her production to more than 200 doz. per 8-hr. shift. The production is the same for Dunn-system and conventional finishing methods. (A-294)

▶Ceramic guide bars for any make of tricot warper are in production at American Lava Corp., Chattanooga, Tenn. Made with AlSiMag 513, the guides have a hardness of 9 on Mohs' scale (diamonds are 10). (A-295)

Bleaching, Dyeing, Etc.

CONTINUED FROM PAGE 114

Rotary Cutter-Winder

The EMCO rotary cutter-winder, featuring a new cutting device and a double release, was announced by H. W. Butterworth & Sons Co., Bethayres, Pa.

The roll is moved from the back to the front drum by transfer arm that eliminates manual lifting. When a roll is completed, the double-release mechanism provides a straight drop. (A-112)

▶A new hydraulic guider was announced by Blake Electric Mfg. Co., Boston, Mass. The guider, which operates at a pressure of 125 lbs., comes complete with feelers, hydraulic cylinders, and pumping unit. (A-296)

Shearing Machine

A high-speed shear for cotton, jute, linen, silk, and synthetic fiber was announced by Sam Vollenwerder Ltd., Horgen, Switzerland. Operating at up to 110 yds. per min. through a variable-speed gear, the machine features an electronic knife-stopping device, a selvage tensioning attachment, and exhaust system. It is made for goods from 47 to 110 ins. wide in several models. (A-297)

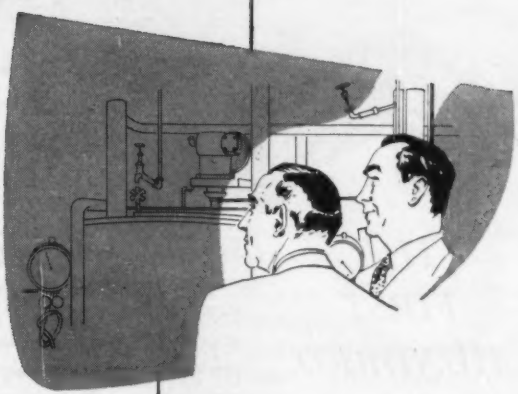
Skein Dryer

A continuous dryer for skeins has a short drying chamber (5 ft., 6 ins. long) and is said to save time, steam, and power and to produce evenly dried yarn with a soft handle. Made by Fleissner & Sohn, Egelsback, Western Germany, the dryer processes

because it's always uniform
and backed by Keever service

VICTOR Mill Starch

is the weaver's friend

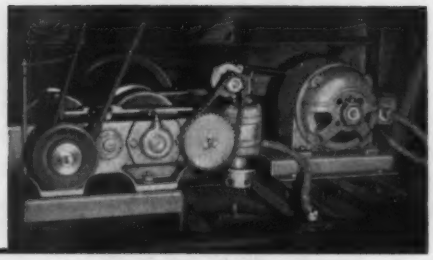


Charles C. Switzer, Vice President
TEXTILE SALES DIVISION
1200 S. C. NATIONAL BANK BLDG.
GREENVILLE, SOUTH CAROLINA

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO

Processors of corn, wheat and blended starches for industry since 1898

LEWELLEN
Automatic
RANGE CONTROL



Maintains uniform fabric tension for bleacheries and mills processing carpets, bed spreads, area rugs, etc.

Illustrated above is a Lewellen Automatic Range Control at work in one of the oldest and largest companies in the tufted textile industry. This famous control may be applied to any process for maintaining uniform tension. Speeds are set on one machine, and all other speeds are controlled automatically to maintain any desired tension on the materials. Speeds can be changed at anytime without interrupting the controls. May we tell you how this time-saving, money-saving equipment will do wonders for you?

Open or enclosed, vertical or horizontal Variable-Speed Transmissions in all sizes from fractional h.p. to 60 h.p. . . . Variable-Speed Motor Pulleys in all ratings from fractional to 7½ h.p. Speed range, 3 to 1 for all pulley sizes. (One size—2¾ to 1.)

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LEWELLEN MANUFACTURING CO.
COLUMBUS, INDIANA

THE FIRST HUNDRED YEARS

FROM a small iron-works in 1854, we have been fortunate in growing to be one of America's largest metal fabricating industries . . . For the privilege of celebrating our Centennial, we express our appreciation for the friendship of four generations of customers, and the loyalty of four generations of workers.

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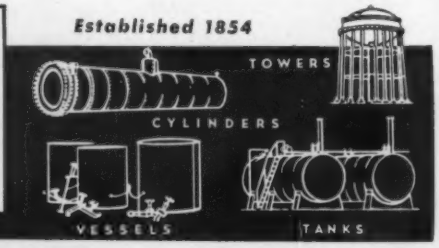
MANUFACTURING CO.
NEWNAN, GA.

Established 1854



1,600 lbs. of cotton yarn in 8 hrs. at 212° F. The same amount of Wool is dried in 8 hrs. at 140° F. (A-298)

Cloth Guide

► Application of a pneumatic-hydraulic cloth guide on a pin-tenter frame in a woolen mill allows the tenter frame to operate at full speed. Full speed is possible because the sensing element does not touch the cloth, and cloth slackness does not greatly affect accuracy. Response to run-outs is fast because the hydraulic cylinders have a low inertia.

The cloth guide, manufactured by Askania Regulator Co., Chicago, Ill., operates from the pneumatic sensing device, which blows air across the selvage to indicate the edge position. The hydraulic controller positions the guide rolls in response to the signal. (A-299)

Automatic Edge Guide

The Frankel Automatic Edge Guide works through a pneumatic sensing device and control unit to provide accurate travel of fabrics. Misalignment is detected by relative pressure at the nozzles, which do not touch the goods. Accuracy up to ±⅛ in. per 100 ins. of web is claimed at 750 yds. per min. Developed by W. T. Howald Co., Brooklyn, N. Y. (A-300)

Photoelectric Edge Guide

An improved photoelectric edge guider, called the Linear Edgetrol, was developed by Airlecton, Inc., Caldwell, N. J. It has a wide sending-head slot and recessed control panel.

No force is applied to the material. This feature permits accurate edge registration of light, thin materials and heavy materials, even when not under tension. (A-301)

► Air-flow drying-tunnel kits are available from Edwin L. Wiegand Co., Pittsburgh 8, Pa. Each kit contains the component parts required to construct a tunnel with a 36-in.-wide belt. Belt speeds of 5.6 to 23.4 ft. per min. are obtainable. Intensity is variable from 4 to 100% of capacity. (A-302)

► A new kiln-type oven for baking, heating, drying, and curing has been developed by Michigan Oven Co., Detroit, Mich. Either gas or electricity is used to operate the oven. (A-303)

► Type 54 cloth-folding machine, made by Curtis & Marble Machine Co., Worcester, Mass., can be sup-

Keeps You In Step With the Changing Sales Picture . . . TODAY AND EVERY DAY

DON'T LOSE SALES when Fashion Changes! VERSATILITY . . . HIGHER QUALITY . . . LOWER COST

See the NEW IMPROVED TAI by Jacquard.

CIRCULAR JACQUARD KNITTING MACHINES mean added *profits* for you—They give you those popular *finer cuts* in *interlock* or *Jersey* for that softer, *high fashion, low-cost,* quality garment that SELLS!

Don't Worry About Fashion Changes when ONE MACHINE produces ALL THESE . . . AND MORE . . . in *Highest Quality:*

Interlock body with 2 x 2, 2 x 1, or 1 x 1 *cuff. Plain jersey body* with 2 x 2, 2 x 1, or 1 x 1 *cuff. Plain jersey body with a 2-needle panel* in 2 x 2, 2 x 1, or 1 x 1 *cuff. Rib* or *interlock body* with 2 x 2, 2 x 1, or 1 x 1 *Hollywood Coat* with *cuff.*

EVEN MORE IMPORTANT—the TAI Circular Jacquard Knitting Machine gives you—

- HIGHEST QUALITY work with fast-selling new fabrics.
- AMAZINGLY LOW-COST operation.
- Long, TROUBLE-FREE LIFE, even under the hardest use.
- RUGGED, dependable service.
- VERSATILITY to meet the changing fashion picture.

LET US PROVE THIS TO YOU—A Jacquard TAI will keep your sales . . . and profits UP. Higher quality, lower cost, FASHIONABLE sweaters and sportswear always sell. You'll get more quality production at greater savings with the TAI.

Write, wire, or phone today. It will pay you to know the full story on Jacquard. No obligation.

CIRCULAR The Jacquard Knitting Machine Co. JACQUARD

JACQUARD KNITTING MACHINE CO., INC.

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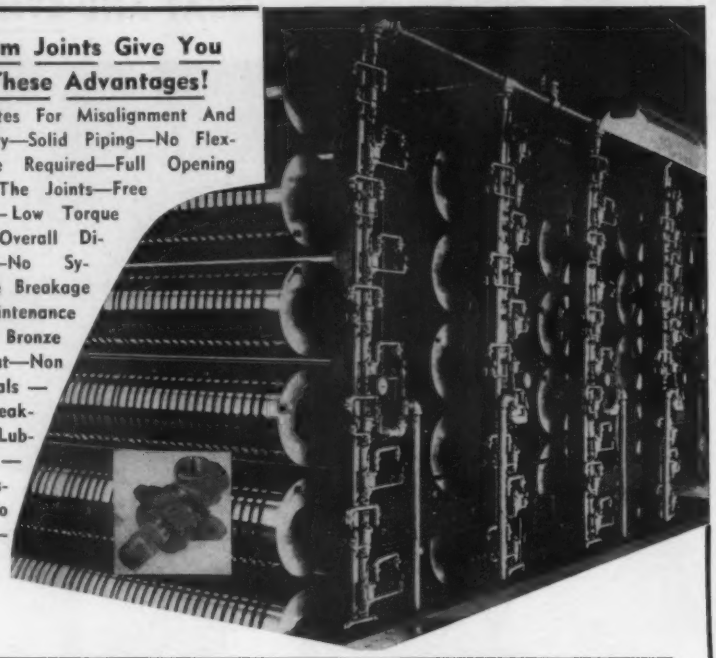
Rotherm Joints Give You All These Advantages!

Compensates For Misalignment And Eccentricity—Solid Piping—No Flexible Hose Required—Full Opening Through The Joints—Free Rotation — Low Torque —Small Overall Dimensions—No Syphon Pipe Breakage —Low Maintenance Cost — Bronze Throughout—Non Porous Seals — No Seal Breakage—No Lubrication — High Pressure — No Bearings—No Dripping



Increased Drying Speed — Lower Maintenance Cost

Sizes ½ to 5" Inc.

ROTHERM ENGINEERING CO INC

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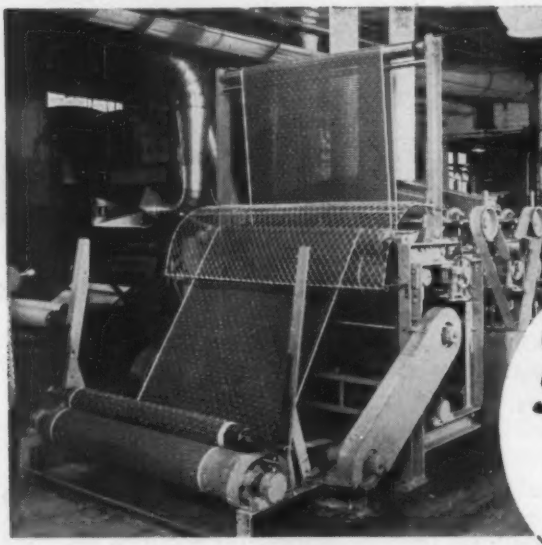
Rep—Harley D. Hohm, 128 Buist Ave., Greenville, S. C. Phone Greenville 5-8833



Clip Spot Shears and

WARP FLOAT CUTTING EQUIPMENT

If you are manufacturing marquisettes or other fabrics with warp float threads that have to be sheared off, write us for complete details regarding our Clip Spot Shears.

HERMAS MACHINE CO.

HAWTHORNE, N. J.

plied with a self-contained air compressor seam detector with brake motor, and electric yardage counter. (A-305)

► A continuous-process system for producing foam-backed fabrics was licensed by Elastomer Chemical Corp., Newark, N. J. The soft foam is produced continuously and cured directly onto natural or synthetic textiles. (A-306)

► Improved wrappers for spiral-spring and perforated-tube dye packages with an increased rate of penetration and an improved wet strength were developed by Technical Papers Corp., Boston, Mass. (A-307)

► An automatic rotary cloth press was offered by Stellite American Corp., New York, N. Y. Made by Kettling & Braun, Germany, the press features distribution of pressure and safety devices to prevent damage. The press bed sinks automatically at seams; rise and fall of the bed is controlled by safety switches. (A-308)

Auxiliary Equipment

CONTINUED FROM PAGE 117

► The new reeler was developed by Johnson & Bassett, Inc., Worcester, Mass. The machine has a full capacity of 28 skeins arranged 14 on each side. Swifts accommodate 72- or 90-in. skeins, which can be changed without changing the arms. (A-309)

► A plastic quill box was developed by Gladwin Plastics Co., Atlanta, Ga. The top is reinforced with a steel rod, and the box will not tear, dent, or split. (A-310)

► Antivibration floor pads made of layers of cork and sisal fiber bonded with Bakelite vinyl resin were introduced by Clark-Cutler-McDermott Co., Franklin, Mass. (A-311)

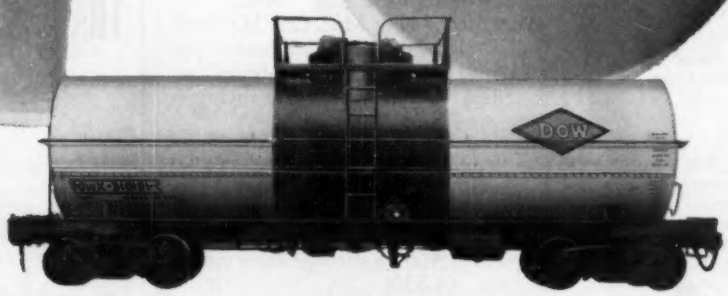
► A 3000-lb.-capacity fork truck was introduced by Samson Mobilift Corp., Portland, Ore. A multiple-disk clutch running in oil is fluid-coupled to a constant-mesh transmission providing two forward speeds and reverse. (A-312)

► Braider bobbins made of nylon and aluminum tubing are available from Plastic Mold & Engineering Co., Wellesley, Mass. The nylon is molded through the hub bore to form the lining and flanges. (A-313)

► A tiltproof tape-tension pulley for spinning frames is made with double-row ball bearings and a dynamically balanced Parkerized shell. Made by SKF Industries, Inc., Philadelphia,

DOW

73%



DOW CAUSTIC SODA

Availability of 73% caustic soda solution from Dow is now importantly increased. Two new bulk terminals—at Bayonne, N. J. and North Charleston, S. C.—are speedily serviced by the new liquid chemicals tanker *S. S. Marine Dow-Chem*. These added distribution points, plus expanded 73% production facilities at Midland, Mich. and Freeport, Texas, mean *faster*, more *economical* delivery to the growing number of 73% caustic users.

Our Alkali Sales Department will gladly assist you in accurately figuring your potential *savings* with 73% caustic. THE DOW CHEMICAL COMPANY, Dept. AL 362E, Midland, Michigan.

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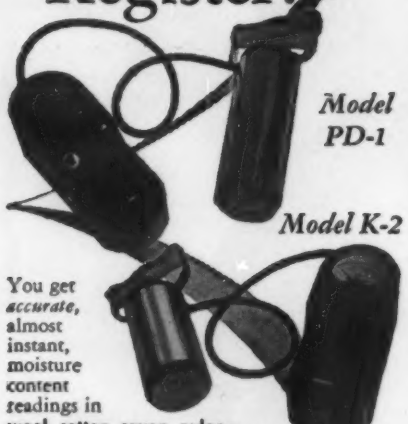
DOW

For more information, write direct or use Reader Service post card.

Test moisture content *in* 3 *seconds* with Moisture Register!



Model PD-1

Model K-2

You get *accurate*, almost instant, moisture content readings in **wool, cotton, rayon, nylon—practically any type of textile**—when you use Moisture Register Model PD-1 or Model K-2.

Either model gives you "on-the-spot" readings with guaranteed accuracy. They're simple to operate, require no technical knowledge or skill, weigh only 6 pounds, easily portable.

Model PD-1 tests textiles in loose or compressed forms with 3" penetration. Model K-2 tests cones, beams, rolls and similar forms.

ONE YEAR GUARANTEE!

Use one of these instruments **FREE** for 10 days. No obligation! Prove for yourself that Moisture Register will help you maintain higher standards, iron out production headaches, add to your reputation as a manufacturer of quality products. Fill out coupon, mail today!

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Model.....for use on.....
Enclosed find purchase order to cover trial period.

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Pa., the pulley is said to have an increased capacity because of the inner-race rotation and stationary grease chamber. (A-314)

▶ An electric fork truck of 5,000 lbs. capacity was introduced by Elwell-Parker Electric Co., Cleveland, Ohio. It has a loaded speed of 5¼ mph. and a lifting speed of 25 ft. per min (A-315)

▶ A heavy-duty sewing machine has a foot switch on a pedestal base for easy operation. Made by Dinsmore Mfg. Co., Salem, Mass., it can be equipped with a Dinsmore single chain-stitch head or Merrow butt-seaming head. The sewing head is synchronized to the gear reducer, gears have a coarse pitch to prevent backlash, and a ratchet drives the cloth pin wheel to prevent cloth slippage. (A-316)

▶ The Aeroturn dust collector, Model R, was introduced by Turner & Haws Engineering Co., Boston, Mass. A cylindrical housing and rotary-arm continuous cleaning action make possible the handling of heavy dust loads from pneumatic conveyor systems. (A-317)

▶ The Cornely embroidery machine, Model B-5, was offered by Columbia Sewing Machine Corp., New York, N. Y., as suitable for use in embroidering with any kind of ribbon, braid, or cord. Ball bearings and ball joints have doubled the speed of this model over Model B. (A-318)

▶ False-bottom roving boxes, developed by Fisher Mfg. Co., Hartwell, Ga., hold 20 12x6 bobbins. The bottoms lower as the bobbins are tossed in; so damage to the roving is minimized. (A-319)

▶ A napping-speed counter was offered by Stellite American Corp., New York, N. Y. It determines proper napper roll speed for various fabrics and thus helps to eliminate damage from wrong settings. (A-320)

▶ A variable-speed pulley made by Lewellen Mfg. Co., Columbus, Ind., features reduced overhung load and 40% saving in space. Ratings are from fractional to 15 hp. Speed ranges: 2¼ to 1, 3 to 1, and 4 to 1. (A-321)

▶ A reed-grinding and -brushing machine was offered by Edda International Corp., New York, N. Y. Made by Affutex Mfg. Co., Sweden, it will handle reeds up to 8 ft. Special models handle 10-ft. reeds. (A-322)

▶ A Quicklock door was developed for the conditioning machines made by Sanderson & Co. Ltd., Manchester,

His Dreams Are Always Pleasant...

since he switched to

LAZENBY WINDERS

Lazenby winders took the uncertainty out of his mill operation. He needed cops of extreme diameter and length. He wanted uniformity and maximum yardage. Lazenby winders made precisely for his mill, met every requirement. He knows with Lazeny winders on the job his worries are over.

•

Send us a small supply of your yarn and we will wind and return with Test Wind Report and Catalog.

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FRANCIS WILLEY & CO.

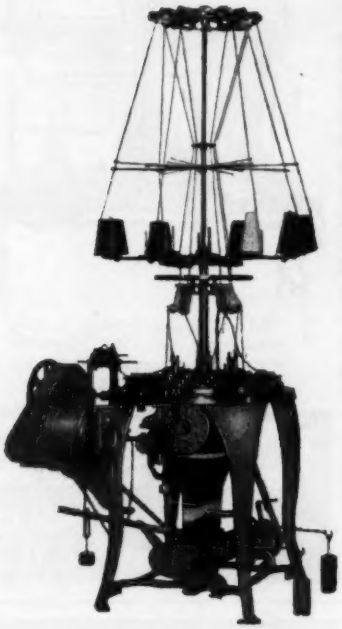
STANDARD WORSTED TOPS
TOPS
SPECIAL TOPS

SOUTHERN REPRESENTATIVE
WILLIAM T. CHEATHAM & COMPANY
BURLINGTON, N. C.

300 SUMMER STREET

BOSTON 10, MASS.

LEIGHTON CIRCULAR KNITTERS



Sizes 9" to 34"
Cuts 2½ to 14
Up to twelve feeds according to size

•

Small size Transfers now available for seamless Juvenile sweaters

with 'Outerdial-Construction' the big roomy 'Outerdial' gives Leighton's versatility that has made them famous the world over. This provides the following:

- Freer cam action
- Less wear on cams
- Easier stitch formation
- Evener pull on yarn
- Less yarn breakage

- Standard Leighton Knitters -

Three Needle Selective Rack
•
Pattern Wheel
•
Stripe & Check
•
Single Stitch
•
Collar & Cuff
•
Transfer Body
•
Transfer Sleeve
•
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Trim Machines
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Special Machines built to order

Automatic Brushing Attachments. Fabric brushed as it is knit.

EST. 1873

LEIGHTON MACHINE COMPANY

··· MANCHESTER, NEW HAMPSHIRE ···

MFGRS. OF CIRCULAR LATCH NEEDLE KNITTING MACHINES

What's Your Cutting Problem?

GLASS FIBER?

HEMP AND FLAX?

THREAD WASTE?

RAGS?

There's a Taylor-Stiles machine for cutting these and scores of other materials.

Write today for folder describing the Taylor-Stiles machine for the type of product you want cut.

TAYLOR, STILES & CO.

15 Bridge Street Riegelsville, N. J.

England. One movement of a large lever locks the door. (A-323)

► Teflon-coated pin plates for pin tenters were featured by Southern Textile Works, Anderson, S. C. Available for all makes of tenters, the plates are of brass with steel, stainless-steel, or K-monel pins. (A-324)

► The Vibraswitch offered by Beta Corp., Richmond, Va., can be set to shut off machines or actuate a warning when vibration exceeds predetermined values. (A-325)

► A push-button looper that operates at 200 strokes per minute was introduced by Klug Engineering Co., Los Angeles, Calif., as a repair unit in large loop-rug establishments or for making rugs in small operations. It will put in about 3,456 loops per square foot. (A-326)

NEWS BRIEFS

► Vanity Fair Mills has filed a suit against a department store in Canada (T. Eaton Co. Ltd.) accusing the store of selling products not supplied by Vanity Fair with a Vanity Fair label.

► Fulton Bag & Cotton Mills has set up a new department to create, promote, and sell novelties and premium specialties made of cotton fabrics, canvas, polyethylene film, and plastic-coated fabrics.

► Largest industrial damages from Hurricane Carol occurred at plants with unanchored plank roofs, according to *Factory Mutual Record*.

► In Egypt, a research institute for spinning and weaving has been recommended by the Ministry of Commerce as one way to bolster the Egyptian textile industry. Other recommendations: lease government land at nominal rents for mill sites; government assistance to new plants; supply technicians to give advice; include specialized textile courses in schools; and set up worker's training centers in textile areas.

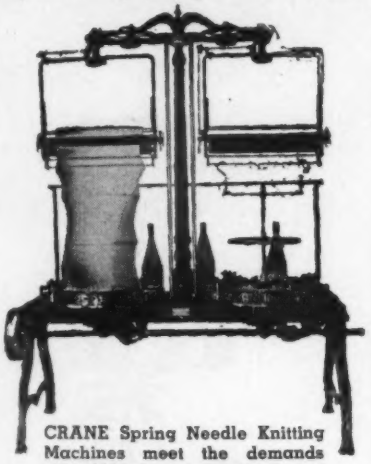
► Price supports on 1955 cotton production will remain at 90% of parity, according to a spokesman for the U. S. Dept. of Agriculture.

► Underwriters' Laboratories, Inc., has awarded an EE rating to the K-51 series of electric industrial trucks made by Yale & Towne Mfg. Co. These trucks are now certified for semi-hazardous areas such as are found in textile mills.

1870 CRANE 1955

SPRING NEEDLE KNITTING MACHINES

Speed - Quality - Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics

CRANE

MANUFACTURING CO.

LAKEPORT, N. H.

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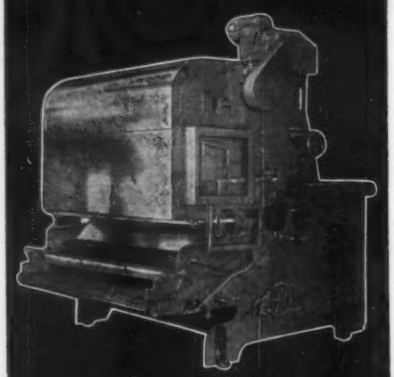

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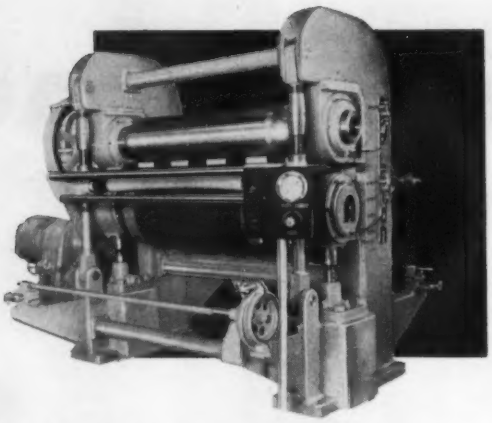
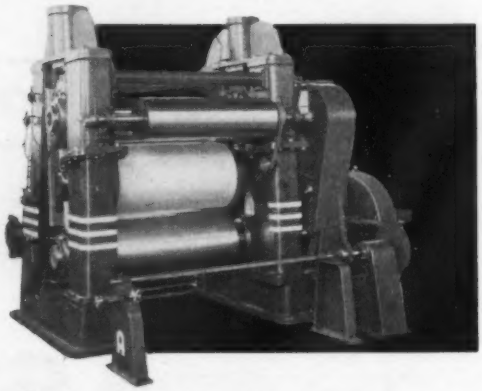
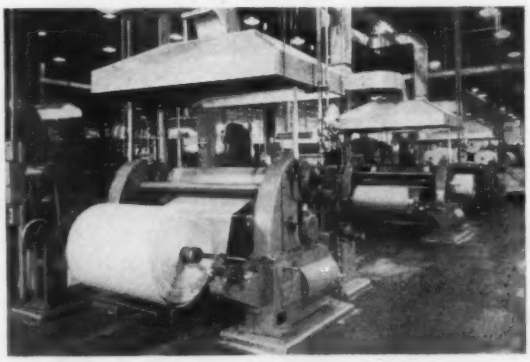
Apply increased production and less maintenance to your everglaze operation with new Appleton Machine efficiency . . . that puts you ahead of competition . . . that protects your profits now and for years to come. Here are 3 ways to do it:



1 An Appleton 2-roll, 50-ton Hydraulic Schreiner Calender gives goods a beautiful lustre at 40 yards a minute, 25% faster than most machines in use.



2 The Appleton 3-roll, 50-ton Hydraulic Friction Calender irons the finest everglaze finish at 40 yards a minute, increasing output by 25%.



3 The Appleton 20-ton Embosser imbeds the most meticulous or simplest design with equal ease and efficiency, at the standard 20 yards per minute.

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Acceptance Assured: the invisible stamp of approval on every yard of everglaze finished goods that runs through modern, money-saving Appleton Machines. An Appleton man is as close to you as your telephone. Why not call 3-7361, or wire, collect at absolutely no obligation, today.

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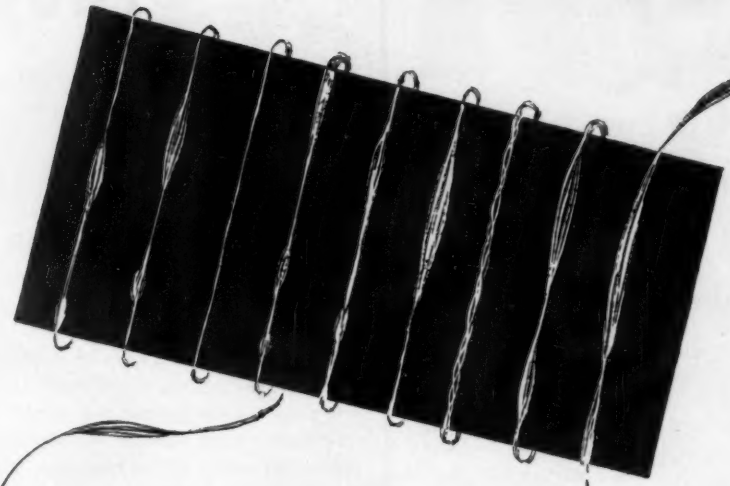
The **BEMBERG®** *Nubbi-Yarn* **STORY**



For the increasingly popular nubby textures for dresses, blouses, draperies, upholstery, and bedspreads, Bemberg presents a wide variety of rayon yarns with nubs, slubs, and thick and thin effects for practically every requirement.

Short Nubbi

High-low, non-mechanical, short entangled slub, irregular in size and spacing. (Also specials running part slub, part smooth). 75 – 800 deniers. As filling with acetate, silk, or chromspun. Lower deniers in dress and blouse fabrics; heavier deniers for draperies, upholstery, bedspreads.

Type "B" Cupione

Longer, entangled slub, irregular in size and spacing, but mechanically controlled for the Douppioni silk-look. 50–450 deniers. Filling for dress and blouse fabrics.

Long Type "A" Slub

Long, parallel, non-entangled slub for the true thick and thin look. 275 – 2500 deniers. Exceptionally soft hand. As filling, in lower deniers, for dress and blouse fabrics; heavier deniers for upholstery, draperies, bedspreads.

Type "C" Long Slub Warp Yarn

Long thick and thin, similar to Type "A", but filaments are more closed, making it suitable for warp or filling. 150 – 450 deniers. Used both warp and filling for dress and blouse fabrics – as warp with any filling, including Bemberg Nubbi yarns – or plied with spun flake yarn for smart men's suitings.

Measle Yarn

Part tight, part loose filaments with different shrinkage . . . forming loop or boucle effect. In weaving, loops break through surface of fabric for decorative dot effect. 400 – 3000 deniers. Lower deniers as filling in dress and blouse fabrics; heavier deniers for upholstery, draperies, bedspreads.

Strata Slub • Multi-Strata Slub • Dream Slub

Torpedo-shaped slubs spaced: Strata, 9′ apart; Multi-Strata, 6′ apart; Dream, 18″ apart. 150 – 5000 deniers. As filling in fabrics for upholstery, draperies, bedspreads.

Flake Slub

Short, entangled slub similar to flake slubs made with staple yarn. 300, 600, 900 deniers. Available for filling in upholstery, drapery, and bedspread fabrics . . . as multi-colored decorative yarn . . . or plied with any of our other yarns.

All yarns available natural for piece-dyed fabrics or in 36 direct skein-dyed colors for loom-finished fabrics.

Write for samples and prices. We invite inquiries about special problems or specifications in nubby yarns.

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EGYPTIAN COTTON, by C. H. Brown; Leonard Hill Ltd., 9 Eden St., London N.W. 1, England; 174 pages, 16 shillings plus 1 shilling postage ($2.38).

Cotton growing started in Egypt about 150 years ago, and the varieties of cotton grown there developed more or less by chance. But in this century, the Egyptian government has paid much attention to cotton improvement. This book traces the history of the development of cotton growing in Egypt and describes the breeding and research work done on Egyptian cotton. The author, until recently, was chief cotton breeder of the Egyptian Ministry of Agriculture.

DETERIORATION OF MATERIALS, Causes and Preventive Techniques, Edited by G. A. Greathouse and C. S. Wessel; Reinhold Publishing Corp., 430 Park Ave., New York, N. Y.; hard cover, 538 pages, $12.

There is one 98-page chapter in this book devoted to textiles and cordage, with 255 references to textile-research literature, which serves as an excellent bibliography on the deterioration of textiles. The causes and ways to prevent deterioration are covered from sunlight to carpet beetles.

Other chapters of interest include electrical equipment, paints, and packaging. General chapters on climate and chemical, physical, and biological agents provide background and reference material.

INDIA'S ALLIED TEXTILE INDUSTRIES, by B. B. Joshi; Technical and Commercial Publications, 81 Alkapuri, Bawda, India; hard cover, 187 pages, 7 shillings, 6 pence ($1.05).

This book has 12 chapters, which cover the manufacture of textile machinery, size, bobbins, heddles and reeds, shuttles, and spindle tapes in India. A chapter on quality control is included. The discussion in each chapter includes a description of how the material is used as well as how it is made.

CONTINUED ON PAGE 214

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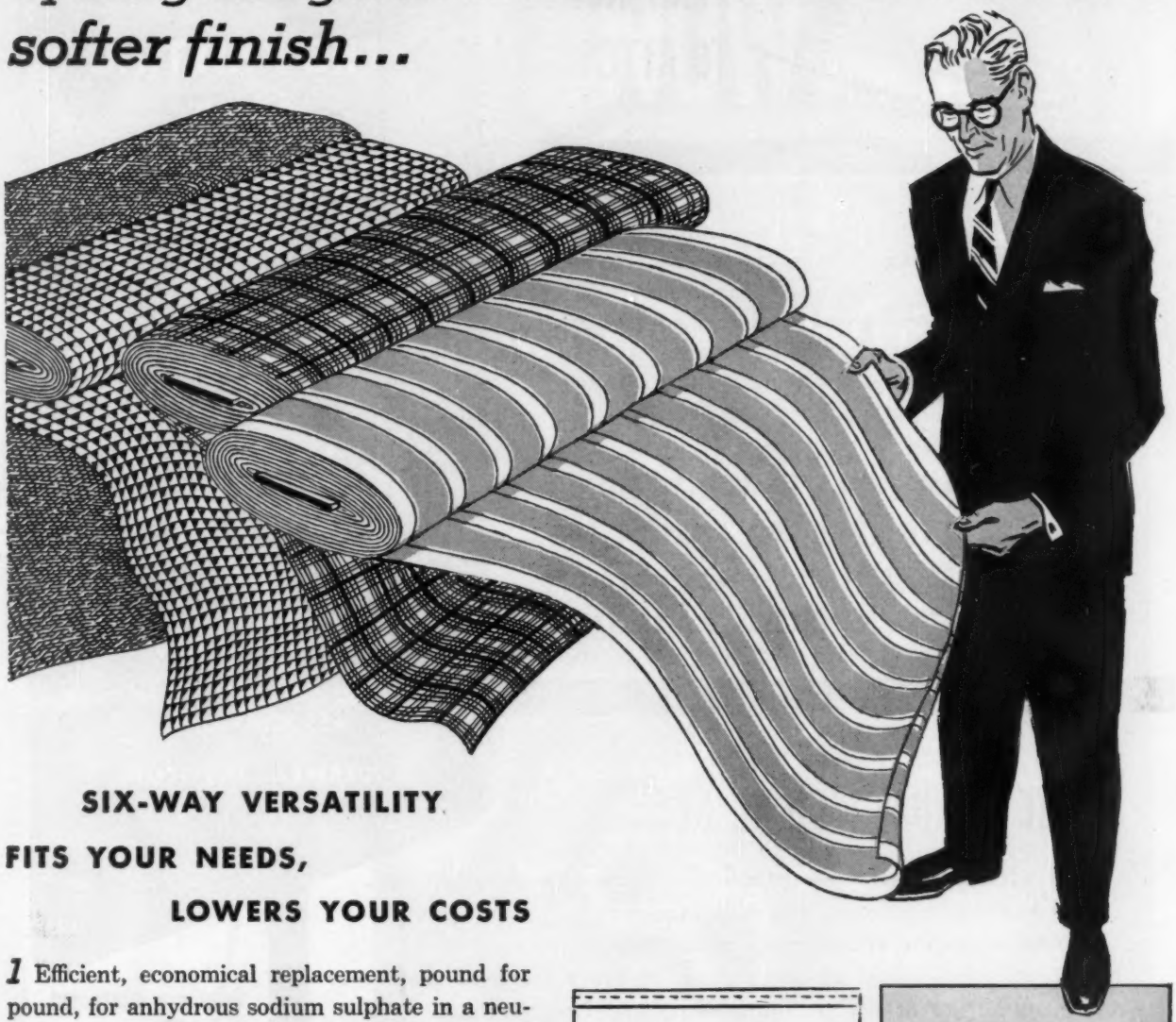

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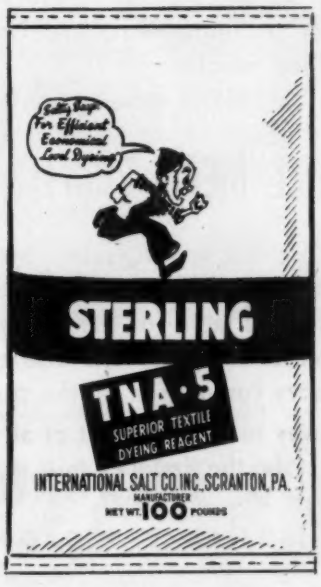
In 100-lb. bags and bulk



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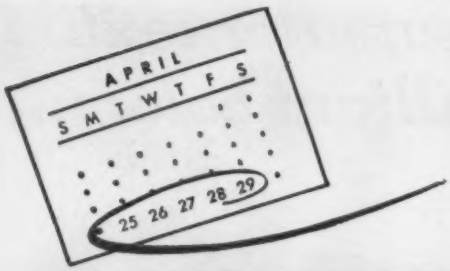

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TO YOU . . . the industry's leading suppliers of knitting, winding, dyeing, sewing and cutting machinery, mill equipment, yarns and allied products and services — extend a most cordial invitation to attend the largest and most complete trade show ever held for knitting executives.

THE ATLANTIC CITY AUDITORIUM WILL BE CONVERTED INTO THE *LARGEST* KNITTING MILL EVER PUT INTO OPERATION!

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HERE'S WHAT YOU'LL SEE . . .

- In actual operation — practically every new development in knitting machinery and mill equipment.
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ATTENDANCE WILL MEAN PROFITS!

- Under one roof, you and your associates (plant superintendent, purchasing agent, sales manager) will see every major production innovation suitable for the knit goods trade, thus saving you time and expense and also enabling you to make the necessary comparison on the spot.
- There is no better way to keep abreast of all that is new, all that is important in the field of mill machinery and operating techniques.

Suppliers interested in exhibiting should apply promptly — as available space is now limited.

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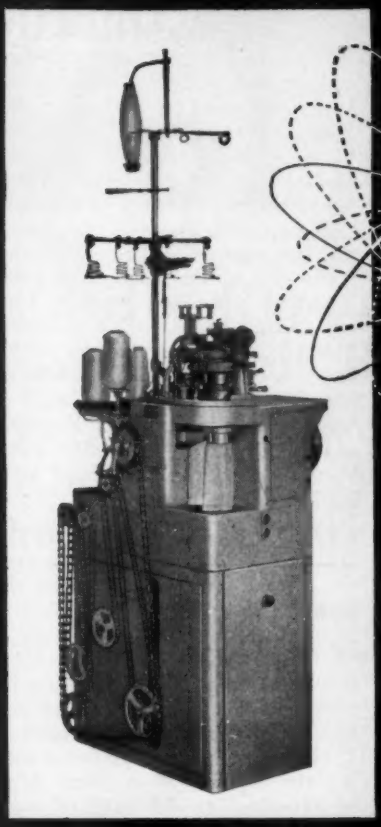

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- Electronically controlled with approved General Electric THY-MO-TROL.
- Push button operation.
- Accepted and approved by leading hosiery mills.
- Individual motor eliminates line shaft.

The ONLY electronically controlled machine to produce 400 needle seam-free ladies' hosiery.

Leading hosiery mills are setting new standards for production—and profits—with this revolutionary high-speed knitter. See it in operation at our showrooms . . . or visit with us at the Knitting Art Exposition in Atlantic City.

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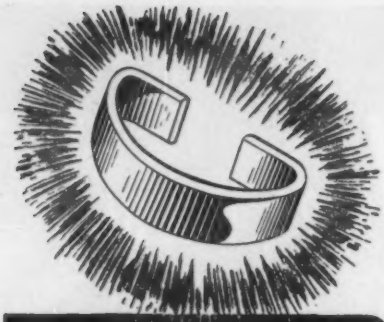

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BOOK REVIEWS

(Continued)

MECHANICS OF ELASTIC PERFORMANCE OF TEXTILE MATERIALS: RELATION OF CERTAIN GEOMETRIC FACTORS TO THE TEAR STRENGTH OF WOVEN FABRICS, U. S. Quartermaster Corps.; Room 6227, Dept. of Commerce, Washington 25, D. C.; paper, 61 pages, $2; Code No. PB 111409.

Fabrics with a higher tear strength are the goal of this research. The report describes and gives the results of tongue-tear tests on a variety of acetate fabrics in which certain controlled factors are varied: weave, texture, yarn twist, and yarn structure.

It also discusses the influence on tear strength of various kinds of fabrics distortion at or near the tear: yarn pull-out force, crimp, cover factors, and dimensional stability in the plane of the fabric. The relationships between these kinds of distortion and the variable fabric factors are examined, and the mechanism of tear is investigated theoretically and correlated with the test findings.

ABRASION DAMAGE OF TEXTILE FIBERS, U. S. Quartermaster Corp.; Room 6227, Dept. of Commerce, Washington 25, D. C.; paper, 41 pages, $1; Code No. PB 111408.

Research described in this report has led to a new criterion for evaluating the functional performance of textile fibers. Twenty-seven multifilament and staple yarns were tested under a new method developed for use with the Stoll-Quartermaster abrasion tester described in PB 98014 ($1.25). Abrasion damage was measured quantitatively by the fiber fineness (grex) destroyed in flexing around a steel bar.

Much greater differences were observed in the inherent abrasion damage of these fibers than would be expected from the differences in their tensile tenacity.

Test equipment and procedure are detailed and the results tabulated. A special section discusses factors preventing abrasion damage.

GOVERNMENT - OWNED INVENTIONS AVAILABLE FOR LICENSE, Patent Abstract Series, No. 7; U. S. Dept. of Commerce, (available through field office or through Supt. of Documents, Washington 25, D. C.); paper, $1.25.

Fifty-nine textile processes and eight products are listed in this compilation of patents available for license.

Typical processes and machines include: Machine for Testing Fabrics; Materials-Conveying Flue; Cotton Yarn for Water-Pressure Hose; Cutting Machine; Wool Sampler; Method of Making Cotton Fabrics with Differential Elastic Properties; Fireproofing Compositions; Photoelectric Apparatus for Measuring Lap Uniformity; Prevention of Degradation of Textile Fibers by Acids; Apparatus for Applying Sizing and Other Coatings; Method and Apparatus for Drying Sized or Otherwise Impregnated Textile Materials; Padder, Mangle or Squeeze Rolls for Improved Extraction and Impregnation of Textile Fibers, Yarns, and Fabrics; and Wool Scouring Process.

CONTINUED ON PAGE 217

Keep Cloth Clean

CONTINUED FROM PAGE 88

rack inside the tank for holding harnesses, reeds, and drop wires is raised and lowered with a foot pedal.

The solution in the tank for cleaning the equipment contains 1 gal. of Immunol to 50 gals. of water. Steam is turned into the tank, and the solution is boiled for about 30 mins. until it is thoroughly agitated. After the bath, the reeds are taken out and hand-brushed on both sides with a bristled brush to remove all sizing and other residues. Then they're dipped in the solution again, hung on a rack, and dried with compressed air.

When dry, the reeds are polished again with steel wool and blown off again with compressed air. Finally, they're wrapped individually in waxed paper and stored in bins at the drawing-in department. The result is that reeds are always clean and ready to be used when they're needed.

Harnesses Are Also Cleaned

Harnesses and drop wires are cleaned much the same way. Heddles and ribs are removed from harness frames, and the frames are cleaned flat on a table with the Immunol solution and brushes. They're wiped dry with cloth.

Heddles, while still on the ribs, are cleaned in the tank with the same methods used to clean reeds. Drop wires are also cleaned in the tank.

Warps drawn with these clean parts start weaving clean cloth immediately without any further cleaning at the loom. With these parts-cleaning methods, even loom-finished fabrics are doffed at the loom free from reed, harness, and drop-wire stains.

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Better Things for Better Living ... through Chemistry

TEXTILE MACHINERY NEWS

PROPERTY AND APPLICATION DATA ON THESE VERSATILE ENGINEERING MATERIALS: "ZYTEL," "ALATHON," "TEFLON," "LUCITE."

NO. 1 — 1955

Mills Report Substantial Savings with Tough Feed Roll Gears of "ZYTEL"* Nylon

"Zytel" needs no oiling—costs less than metal gears

The abrasive action of certain of the synthetic yarns can cost textile manufacturers money. When these yarns are twisted, abrasive particles collect in the lubricant used for the feed roll assembly, and the gears in the gear train are often gradually ground and pitted until they have to be replaced.

One textile machinery manufacturer, the Fletcher Works in Philadelphia, Pennsylvania, solved this problem. They developed a drive gear and bevel pinion gears molded of Du Pont "Zytel" nylon resin which are used on their Fletcher Master-Duplex machines. As "Zytel" has a low coefficient of friction, it needs no lubrication. Particles from the yarn are no longer retained on the feed roll assembly to destroy the moving gears on the gear train. Result: a substantial saving of time and money.

Gears Cost Less to Produce

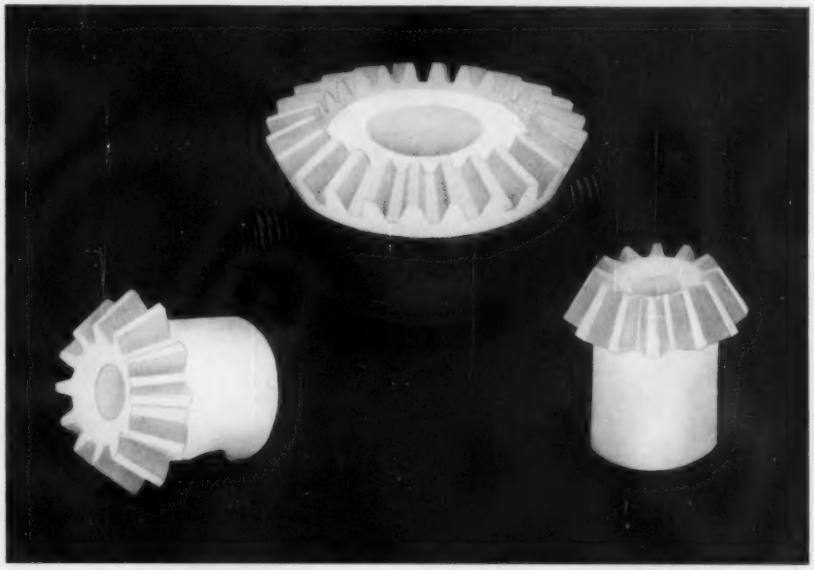
These gears of "Zytel" nylon resin are injected-molded in multi-cavity dies and cost about ⅓ less to produce than the steel gears used previously. Although they are molded in halves for easy replacement (see cut on back page), the wearability of these gears is so great that there has been no need for replacement up to this time. A large mill in North Carolina reports its installation of 24,000 spindles has been equipped with these gears of "Zytel" for the past four years. To date, none of these gears has been replaced.

No Chipping or Breaking

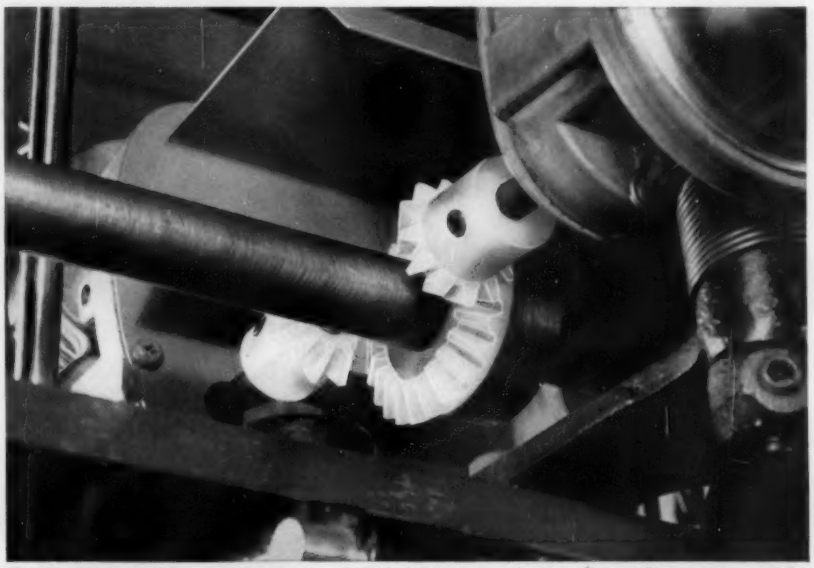
Besides giving longer service life and production economies, gears of Du Pont "Zytel" have exceptional performance. They operate quietly. Neither moisture nor cleaning solvents corrode them. Although in this application the impact of the gear train to the main drive gear is not particularly severe, the strength of "Zytel" nevertheless assures dependable operation without chipping or breaking.

Have you any problems in your operation? Perhaps "Zytel" nylon resin can provide an economical solution. Today more and more parts of this material are (*Continued, column 1 back side*)

*"*Zytel" is the new trade-mark for Du Pont nylon resin.*



These two small pinion gears and drive gear are used in a feed roll assembly and are molded of Du Pont "Zytel" nylon resin. Gears are tough—resist chipping and breaking.



Feed roll assembly, showing gears of "Zytel." Because they need no oiling, yarn particles are not retained on the moving surfaces and gear life is substantially increased.

OVER

DU PONT

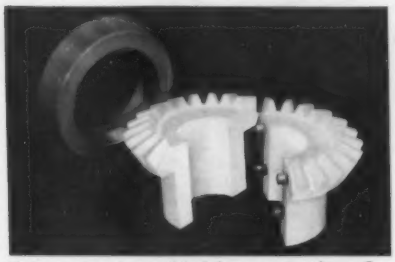
TEXTILE MACHINERY NEWS

PROPERTY AND APPLICATION DATA ON THESE VERSATILE ENGINEERING MATERIALS: "ZYTEL," "ALATHON," "TEFLON," "LUCITE."

NO. 1 — 1955

Mills Report (*Continued*)

found in textile machinery—for drafting parts, verge plates, condensers, thread guides, quills and many other applications. Complete property data for "Zytel" —as well as the others in the Du Pont family of engineering materials—can be obtained by using the coupon below. Write for this data today.



Drive gear is molded in two sections for simple replacement. These gears cost ⅓ less than steel gears used previously. They are used on the Master-Duplex machines manufactured by the Fletcher Works, Philadelphia, Pennsylvania.

Investigate Du Pont engineering materials in your product development programs

One of the family of these versatile engineering materials is often a key factor in product improvement or new product design.

The wide range of properties available with "Alathon"* polyethylene resin, "Lucite"* acrylic resin, "Teflon"* tetrafluoroethylene resin, and "Zytel"† nylon resin are helping solve industrial design problems.

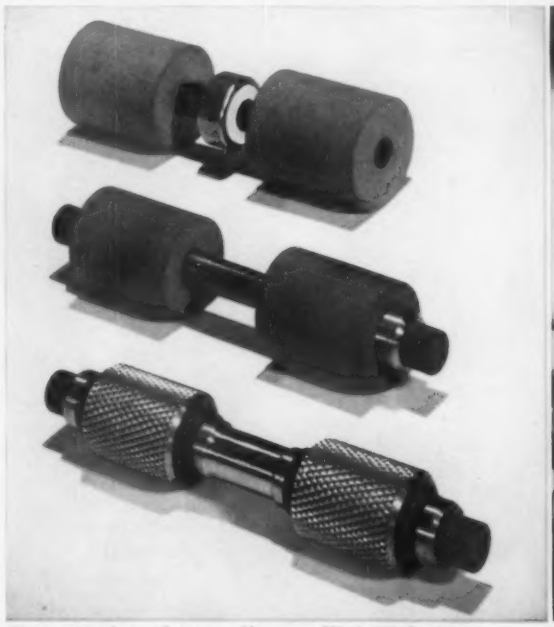
NEED MORE INFORMATION?

Clip the coupon for additional data on the properties and applications of these Du Pont engineering materials.

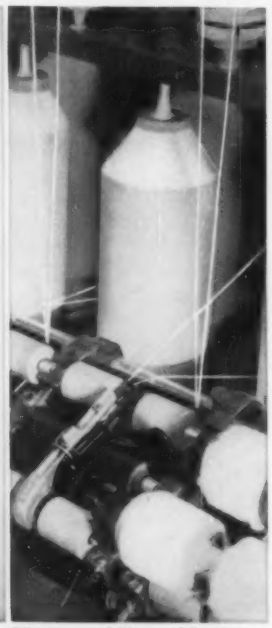
Less Wear, Yarn Spoilage and Maintenance with Saddle Guide Bearings of Filled TEFLON®

Drafting is simpler and more economical with the new saddle guide developed by the Dixon Corporation. Back rolls in this improved saddle guide have non-revolving end gudgeons of filled "Teflon." End gudgeons in the Dixon saddle guide never need oiling whatever the service conditions, because filled "Teflon" tetrafluoroethylene resin offers an extremely low coefficient of friction, excellent abrasion resistance and toughness. Oil-splattered yarn is completely eliminated. Moreover, because these end gudgeons don't revolve, yarn picking is considerably reduced.

Top back rolls are mounted in the usual cap bars and weighted by a special back saddle equipped with bearings of filled "Teflon." The back saddle bearing is designed to lap around half the diameter of the center arbor of the back roll, holding the saddle guide in position while releasing the weight. These bearing surfaces of filled "Teflon" assure greater resistance to wear. There's economy in power consumption, too, because of the low friction they generate.



These back and top rolls use filled "Teflon" tetrafluoroethylene resin to eliminate oiling, reduce wear and power consumption. Parts are manufactured by the Dixon Corporation, Bristol, Rhode Island.



Dixon saddle guide assembly in action. Non-revolving end gudgeons of filled "Teflon" reduce yarn wrapping.

Great Potential for "Teflon"

Textile machinery designers and users are becoming increasingly aware of the high potential of Du Pont "Teflon." Yarn wrapping, picking, oil contamination, frequent parts replacement—all have been reduced through the use of this unique engineering material. Is there a place for "Teflon" in your textile machinery? For complete property data on "Teflon" mail the coupon on this page.

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Please send me more information on the Du Pont engineering materials checked: ☐ "Zytel"; ☐ "Alathon"; ☐ "Teflon"; ☐ "Lucite". I am interested in evaluating these materials for:

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†"Zytel" is the new trade-mark for Du Pont nylon resin.

NATURAL AND MAN-MADE FIBERS, A Review, Commodity Series No. 26, Food and Agriculture Organization of the United Nations; International Documents, Columbia University Press, 2960 Broadway, New York, N. Y.; paper, 85 pages, 75¢.

In 1947, the FAO made a World Fiber Survey. This bulletin brings the textile situation up to date. In three parts, the bulletin covers the apparel-fiber situation—consumption, production, trade, prices, and prospects; reviews the position of cotton, wool, and silk; and discusses the developcents in man-made fibers in general world-economic terms.

The prospects to 1960 are said to be good for an increase in per-capita consumption of fibers.

1955 RLM INDUSTRIAL LIGHTING SPECIFICATIONS; RLM Standards Institute, Suite 818, 326 W. Madison St., Chicago 6, Ill.; paper, 52 pages, free.

Higher RLM specifications on both incandescent and fluorescent industrial lighting units were established effective Oct. 1, 1954. The specifications cover 46 types and sizes of lighting units that qualify to bear the RLM label.

QUALITY CONTROL THROUGH STATISTICAL METHODS, by Norbert L. Enrick; Rayon Publishing Corp., 303 Fifth Ave., New York 16, N. Y.; heavy paper cover, 71 pages, $5.

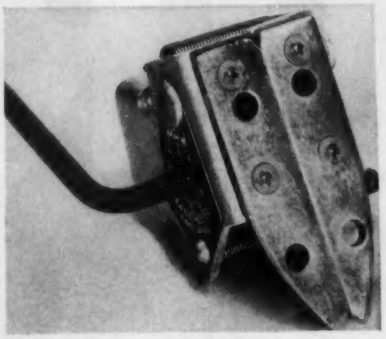
Mr. Enrick is now a research statistician at the Institute of Textile Technology. This manual is based on his experience as a consultant in establishing quality-control programs in cotton, woolen and worsted, and filament mills—spinning, weaving, knitting, and finishing operations. Methods for determining testing and control frequencies are examined, and Mr. Enrick explains how to analyze within-machine and between-machine variations.

LEATHER APRONS AND TAPES FOR TEXTILE MACHINERY, Textile Leather Div., National Industrial Leather Assn., 320 Broadway, New York 7, N. Y.; 16 pages, free.

The material contained in this book was assembled through the joint efforts of the leading manufacturers of textile-leather products. It was published to provide authentic information on the dimensions, tolerances, and practices recognized as standard by the textile industry. Installation instructions covering leather aprons and types are included.

Equipment & Supplies

CONTINUED FROM PAGE 144



Slub Catcher

A new type of selective slub and knot catcher is being produced by Manchester Metal Works Ltd., 368 Bury New Road, Salford 7, England. The device can be set so that weavers' knots are allowed to pass, but the yarn is broken at excessively thick places or badly tied knots.

The yarn enters the gap between the hardened-steel blades at a shallow angle between 14 and 25°. The gap between the blades tapers slightly and narrowing in the direction the yarn is moving. So the yarn is drawn towards the narrower part of the gap when the yarn exceeds a certain thickness and is broken. A second pair of blades at the narrow end traps knots badly tied or with long tails and breaks them before they reach the clearer end.

The unit is intended for use principally on winding and doubling frames. It is set by a special box key to give any desired gap, and it can be easily opened to remove slubs and yarn tails and for general cleaning. (T-24)

Colorimeter

The Model C Color-Eye, a comparison colorimeter for production color control, is available from Instrument Development Laboratories, Inc., 163 Highland Ave., Needham Heights 94, Mass. A spectrophotometer is available as an accessory.

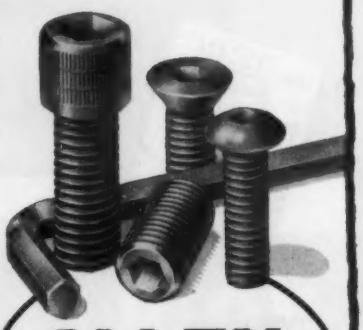
The Color-Eye automatically accommodates itself to the illumination of the samples, and samples that reflect only 1% of light can be compared to a ¼% accuracy. The ratio of sample brightness to standard brightness is indicated on a direct-reading meter.

Other features: portable; 1-min. warm-up; white-glass standards of 10. 20, 30, 50, and 100%. (T-25)

What mill people say ABOUT ALLEN SOCKET SCREWS

"Use them whenever possible. I prefer them because when I put 'em in they stay."

—Superintendent Griffin, Georgia Textile Mill (name on request)



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Special Herr Conical Ring permits higher speed — compensates for variations in tension — prevents yarn breakage — keeps yarn clean — smooth — uniform. No rewicking required. You'll also need Herr Lightweight Flyers to give you light tensions at profitable high speeds on all stretch nylon, crepe and Helanca yarns.

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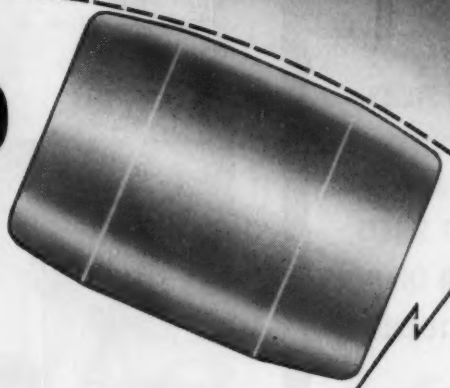
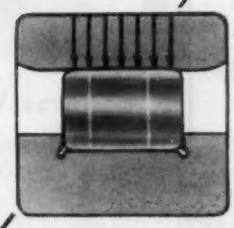
NOW... all Tru-Rol Bearings *have* CROWNED ROLLERS



● When a straight cylindrical roller bearing is under load, the highest stresses tend to concentrate at the roller ends. Stresses may become excessive and cause early bearing failure.

Crowning is a Rollway grinding refinement that adds a long radius curve to the roller ends. This relieves the high stress areas — allows the rollers to take heavier loads and reduces the effect of slight shaft misalignment or deflection. Bearings can be load rated at substantially higher values — provide a longer service life.

Crowning is but one of the many engineering advances built into Rollway Tru-Rol Bearings. Write for the complete story. Rollway Bearing Co., Inc., Syracuse, N.Y.



Crowned roller under full load — stress uniformly distributed.

Crowned Tru-Rol Bearings available in the following type:

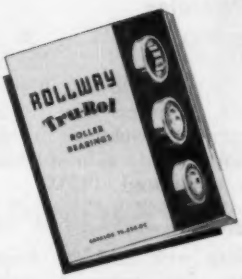
Full Roller

Segmented Steel Retainer

Carefully selected crown radius, varying from 20" to 260", provides proper relief for normal loading to which bearing will be subjected.

+

Stamped Steel Retainer with Guide Lips



New Rollway Tru-Rol Catalog features RBEC formula converted to simple nomogram. Send for your copy today.

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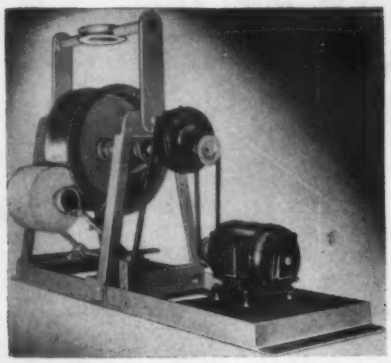
Roving-Bobbin Stripper

The Comer-Turley roving-bobbin stripper, developed at Pepperell Mfg. Co., will be manufactured by West Point Foundry & Machine Co., West Point, Ga. The bobbin is stripped at 3,000 rpm. under an exhaust hood, and the unit can also be set to break up waste, which can be exhausted to opener feeds. Based on two laps of roving, production is six bobbins a minute. (T-26)



Three-Way Fabric Reel

An improved three-way reel that is easily changed from an idler reel to a driven or drag reel has been announced by the Wiesner-Rapp Co., Inc., Buffalo, N. Y.

Made of standard, interchangeable stocked parts, these reels can be furnished as an idler reel or as a driven or drag reel by the addition of a rubber-covered rider roll. Driven and drag reels can be supplied with or without a drive motor and/or speed reducers. The interchangeable parts permit a change-over at any time.

Other features: large-diameter, stainless-steel, flanged-drum reel; welded-steel framework; stainless-steel pot-eye, which can be positioned through an 180° arc; heavy-duty reducing unit; and a standard drive motor.

The large surface contact between the reel and rider roll insures an even pull without distortion to even lightweight fabrics. (T-27)

USEFUL ACCESSORIES FOR THE TEXTILE MILL

Brake Motor

As a companion to Unibrake magnetic motors, Master Electric Co., 126-92 Davis Ave., Dayton, Ohio, has added a new a.c. brake motor. It is now available up to 30 hp., and larger sizes are being developed. (T-28)

Power Drive for Hand Tools

A portable electric power drive to convert hand threaders, cutters, and reams to power tools has been developed by Toledo Pipe Threading Machine Co., Toledo, Ohio. Capacities: ⅛- to 2-in. pipe; ¼- to 1½-in. bolts; and with a universal drive shaft, geared die stocks and cutters up to 12 ins. (T-29)

Strap Stretchers

Pneumatic strap stretchers for carton strapping, available from Acme Steel Products Div., 2840 Archer Ave., Chicago 8, Ill., insure a uniform, predetermined strap tension. Stretchers for various strap widths are available. (T-30)

Feeders

A constant level of oil is maintained in large bearing chambers, pump and gear housings, comb boxes, etc.; or a constant level of water is maintained for moistening fabrics by an oil feeder developed by Trico Fuse Mfg. Co., Milwaukee 12, Wis. Capacities: 10 oz., 1 pt., 1 qt., 2½ qts. (T-31)

Pipe Cutter

A heavy-duty six-roller pipe cutter is announced by Toledo Pipe Threading Machine Co., Toledo, Ohio. The six rollers prevent spiraling with power drives. Capacity: ⅛- to 2-in. pipe. (T-32)

Exhaust-Gas Muffler

Development of the Yale Cyclone muffler, designed to capture carbon particles from the exhaust stream of diesel and gas engines to eliminate the discharge of ignited solids, has been announced by Yale & Towne Mfg. Co., Philadelphia, Pa. (T-33)

Cleaner Concentrate

Econoclene, a multipurpose cleaner concentrate, mixes readily with water, solvent, or kerosene and can be used hot or cold in any proportion. Made by Bendix Products, South Bend, Ind., cold Econoclene solution can be brushed or sprayed on and flushed clean with cold water; 1 gal. will make up to 11 gals. of cleaner. (T-34)

Inert-Gas Welding

Air Reduction Sales Co., 60 E. 42nd St., New York 17, N. Y., has announced the availability of an activated electrode, mild-steel wire, for use in the Aircomatic welding process. Use of carbon dioxide as a shielding gas was also announced. (T-35)

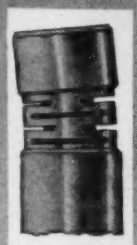
Needle Valves

A complete new line of forged needle valves with universal outlets featuring micrometer-thread, stainless-

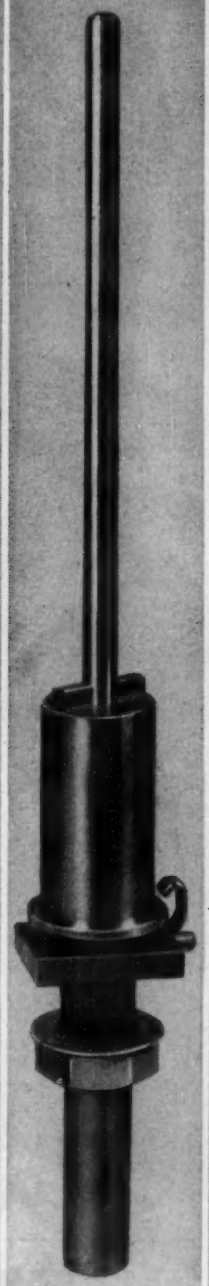
The SMM ROLLER-BEARING SPINDLE

FOR ALL TEXTILE FIBERS—SYNTHETIC OR NATURAL Reg. U.S. Pat. Off.

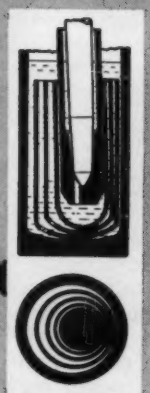
For Higher Efficiency and Greater Economy



Flexibility without the least friction; therefore, no dirtying of oil.

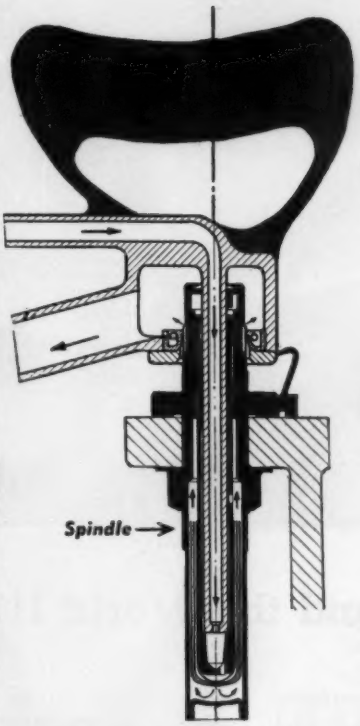


Exclusive oil cushioning. Very gentle and very effective.



Note its important advantages!

- **One oil filling is sufficient for 20,000 or more Hours (5 years at 2-shift basis)**



- **Change of oil and simultaneous cleaning done within fraction of a minute.**
- **Positive one-way oil flush eliminates removing or dismantling of spindle bolster.**
- **Cleanest and speediest spindle up-keep.**
- **No edge pressure on the rollers, roller-bearing and footstep being always perfectly aligned.**
- **Smooth running quality reduces ends-down to a minimum.**
- **Built for any kind of bobbin for any purpose.**

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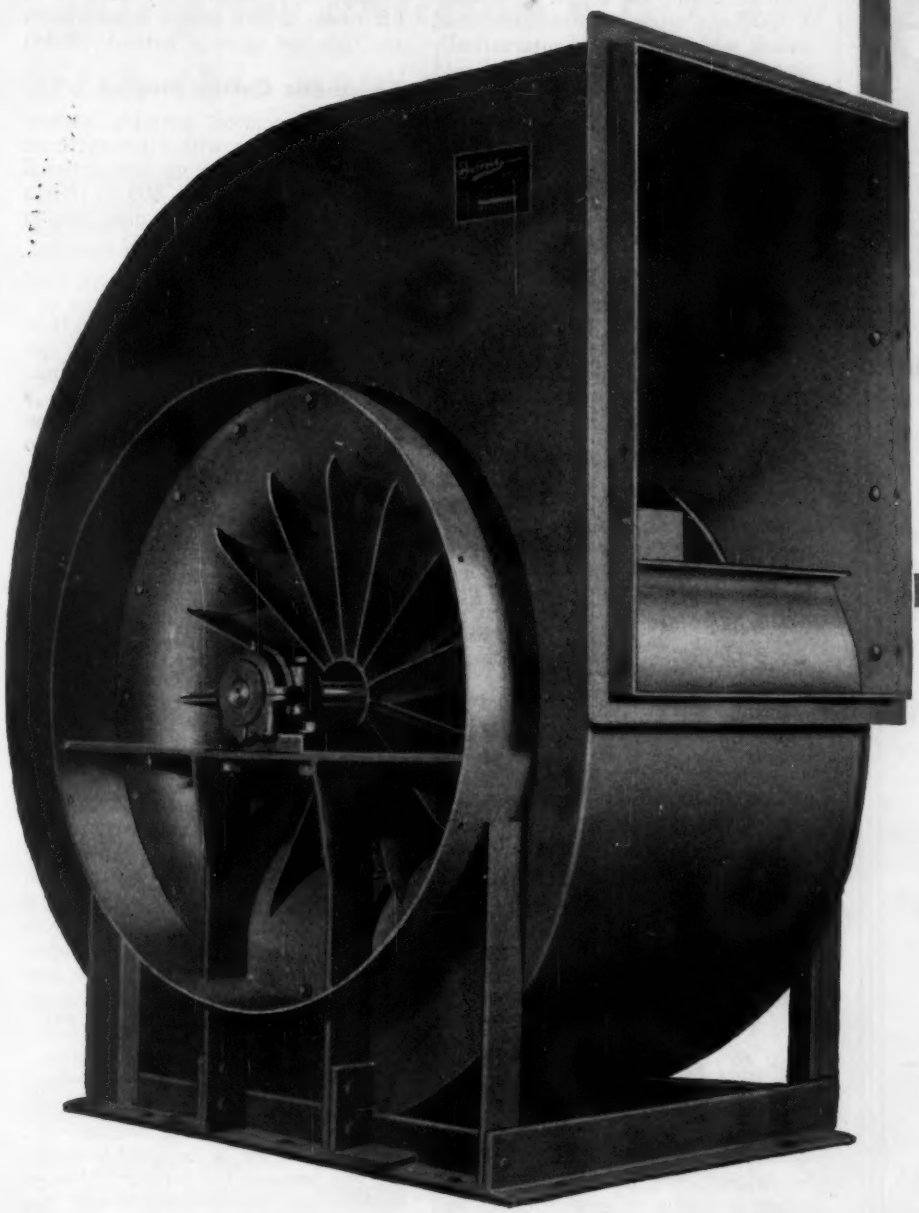

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Dyers and Converters
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steel stems for fine metering is announced by Carpenter Valves Corp., 6723 Denison Ave., Cleveland 2, Ohio. The bodies are forged from brass, stainless steel, or carbon steel. (T-36)

Meter for Liquids

The new Auto-Switch meter developed by Neptune Meter Co., 19 W. 50th St., New York 20, N. Y., features a built-in, explosion-proof electrical switch, which is actuated automatically when any desired quantity of liquid has passed through the meter. Uses: to turn pumps on or off, actuate solenoid valves, start agitators, or control other cycling operations by use of suitable relays. (T-37)

Water-Tank Lining

A ceramic-base material for protecting and restoring water tanks is the heart of a new lining system developed by Emjay Maintenance Engineers, Rutherford, N. J. The material expands and contracts with the iron or steel. (T-38)

3-T Belting

Transmission belts made of synthetic-fiber cords stabilized by the 3-T process have been developed by Goodyear Tire & Rubber Co., Akron, Ohio. A 3-T belt is thin, strong, and flexible. (T-39)

Floor-Patching Material

Instant-use, a floor-patching material made by Flexrock Co., 3600 G. Filbert St., Philadelphia 1, Pa., can be used over concrete, brick, stone, or asphalt floors, inside or outside, and can be applied by plant workers. (T-40)

V-Belt Fasteners

Improved V-belt fasteners for open-end A, B, C, and D V-belts are available from Flexible Steel Lacing Co., 4607 Lexington St., Chicago 4, Ill. A nylon bushing is now used instead of a steel bushing. (T-41)

Cylinder Mounting

A new cylinder mounting with sturdy, square mounting lugs that mount flush with standard square heads and caps to provide a space-saving mounting of great strength and rigidity is offered by Miller Fluid Power Co., 2040 N. Hawthorne Ave., Melrose Park, Ill. A low center-line height is a feature. (T-42)

Pressure-Temperature Regulator

Modulating pressure-temperature regulators are available from O. C. Keckley Co., 400 W. Madison St., Chicago 6, Ill. As temperature varies, the thermostatic control unit acts on the pressure regulator to reduce or increase stream pressure. Rate of modulation is adjustable. (T-43)

Improved Battery

A new nickel-iron battery that gives 25% more power in approximately the same space as its predecessor has been introduced by Edison Storage Battery Div., Thomas A. Edison, Inc., West Orange, N. J. The battery is for use in lift trucks where power requirements are high but space is limited. (T-44)

Pneumatic Carton Stapler

An air-operated portable carton-stapling machine with a two-cycle air motor is available from International Staple & Machine Co., 809 E. Herrin St., Herrin, Ill. The new stapler weighs 8 lbs., 12 oz. (T-45)

Drag-Line Carrier

To enable two-wheel hand trucks to be carried on an infloor drag-line system, Lewis-Shepard Products, Inc., Watertown, Mass., has designed a carrier that locks a hand truck, containing a drum or any other load, into position on the drag-line. (T-46)

Float Units

A new series of snap-action automatic float units for separating moisture and other contaminants from compressed air lines is available from Wilkerson Corp., 3397 S. Platte River Dr., Englewood, Calif. Stock sizes: ¼ to 3 ins. The operating principle is a trigger action. (T-47)

Neoprene Coatings

Coatings based on neoprene: Neobon, an on-the-job mixed heavy rubber coating; Neelium, a high-solids liquid neoprene coating; a caulking material; and Elprene, a liquid neoprene maintenance coating are available from Atlas Mineral Products Co., Houston 20, Tex. Colors: gray and black. Surfaces: metal or concrete. Application: brush, roller, or spray gun. (T-48)

Circuit Breaker

A 400-amp. circuit breaker, developed by I-T-E Circuit Breaker Co., Philadelphia, Pa., is designed to bridge the gap between the present 225-amp. molded-case circuit breaker and the 600-amp. model. (T-49)

Two-Wire Thermocouple

A new two-wire thermocouple, encased in stainless-steel tubing, has been introduced by Industrial Div., Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. Terminal heads: open-head assembly or screw-cover head. Accuracy: 5° F.; range: 0 to 1,000° F. (T-50)

AGAIN!

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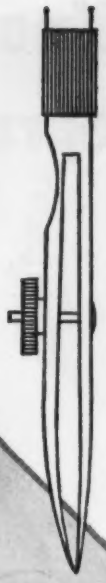
multiplies knitting efficiency with this new striper...



MODEL SAAF-C

New, "One-Machine Knitting Mill" Has 32 Striping Feeds... Doubles Production... Gives Greater Pattern Variety... Unprecedented Convenience and Safety

Supreme engineering has a reputation for cutting cloth production costs by multiplying machine efficiency. The SAAF-C variable striper and pattern placer is the newest advance in that successful record.

HAS 32 FOUR-COLOR STRIPING BOXES, 32 PATTERN WHEELS, 32 PATTERN PLACERS

It's a super-improved version of Supreme's famous SAAF, with double the production capacity on certain fabrics, plus a terrific increase in pattern versatility. The SAAF-C combines in one machine all the knitting ability of all other Supreme stripers plus important new features which accelerate high quality output and simplify operation. In addition to variable striped fabrics, pattern wheel fabrics and Pattern Placer fabrics the Model SAAF-C knits lay-in fabrics, knit and tuck cloth, and knit and welt cloth.

NEW "STEP-DESIGN" YARNSTAND (PAT. PEND.) BOOSTS EFFICIENCY, SPEED AND SAFETY

Holds 128 cones, each clearly visible and easily accessible. Sufficient headroom for knitter to work beneath stand without stooping or bending. Rugged, stationary anti-vibration construction facilitates faster cylinder speeds, assures greater safety.

NEW STRIPING BOX DESIGN SIMPLIFIES SETTING

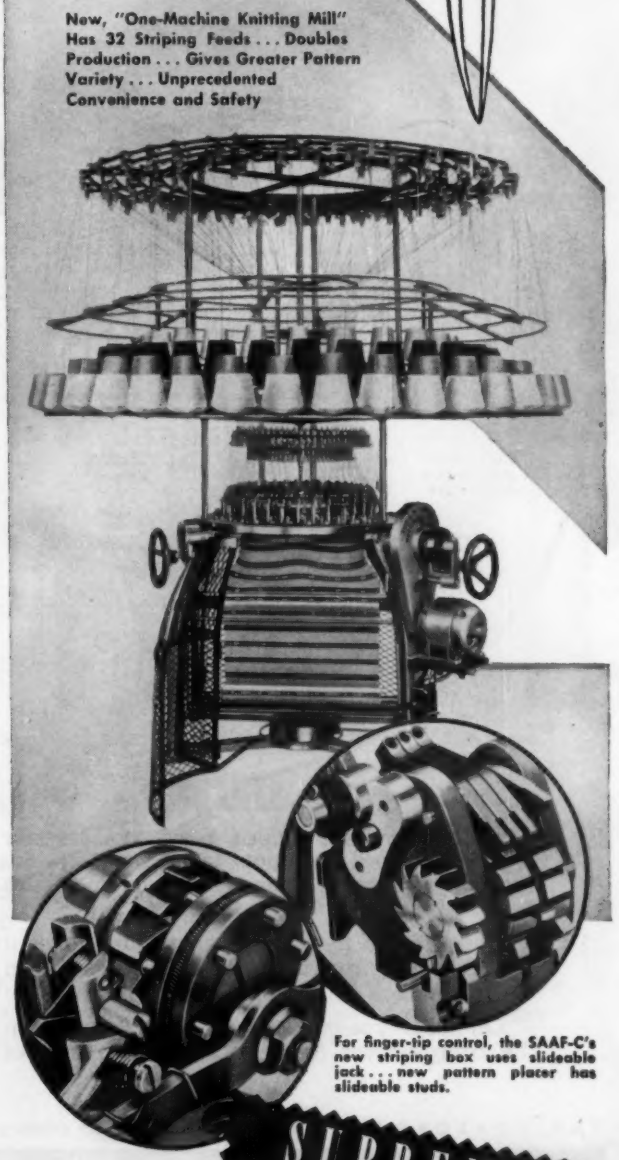
Design drum has been redesigned to permit sure, simple, manual setting... without screwdriver or wrenches. Adjusting studs have been replaced by a slideable jack which remains permanently in the drum and is easily shifted by hand to engage the proper striping finger. Eliminates misalignments. More compact design gives operator better view and easier access.

NEW PATTERN PLACER DESIGN GIVES FINGER TIP CONTROL

No tools needed to set pattern placer. Slideable studs, permanently self-retained in design drum, provide easy, finger-tip control of operation.

NEW SCISSOR-TYPE SYNCHRONIZED "NO-WASTE" CUTTERS

Each striping box has exclusive new scissor-type cutter which is positive and foolproof.



For finger-tip control, the SAAF-C's new striping box uses slideable jack... new pattern placer has slideable studs.

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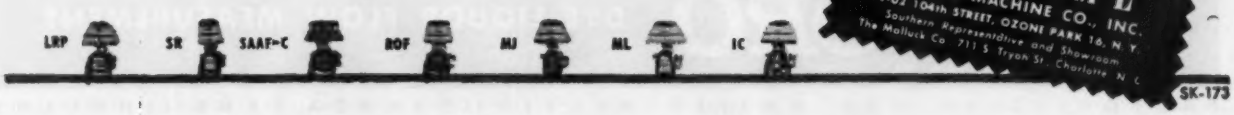

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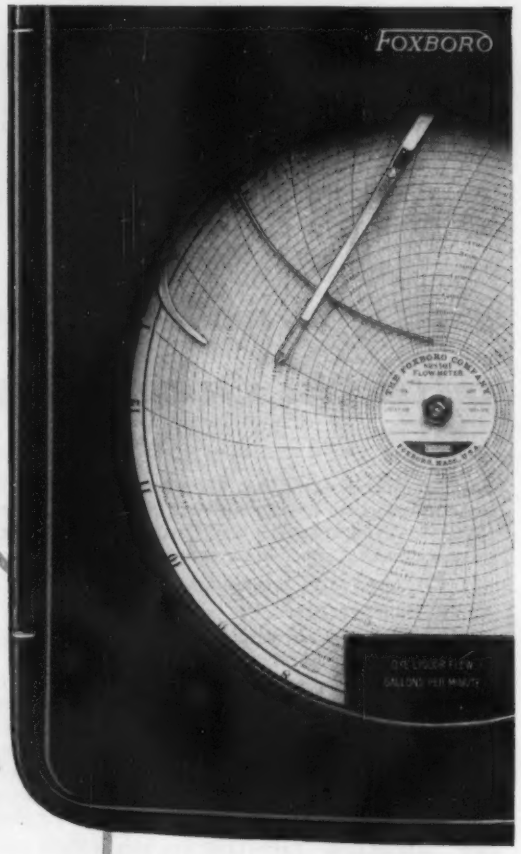
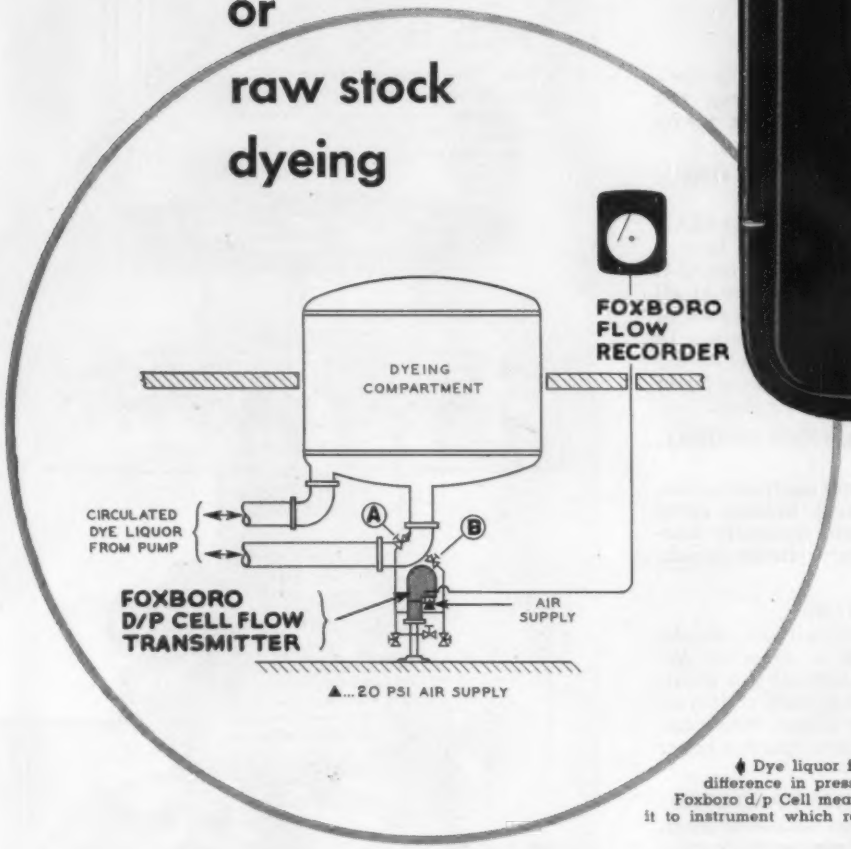
...in beam, package, or raw stock dyeing





NEW!

Fully Automatic Flow Control, *tried and proved*, now available. Send for details.

Dye liquor flowing in either direction creates a difference in pressure between elbow taps A and B. Foxboro d/p Cell measures this differential and transmits it to instrument which records flow in gallons per minute.

WITH FOXBORO DYE LIQUOR FLOW MEASUREMENT you can record both outside-in and inside-out flow in your recirculating-type dyeing machines . . . *with no restriction to the flow.*

Chart record in gallons per minute makes it easy to standardize flow rates per pound of yarn in accordance with dyestuff specifications.

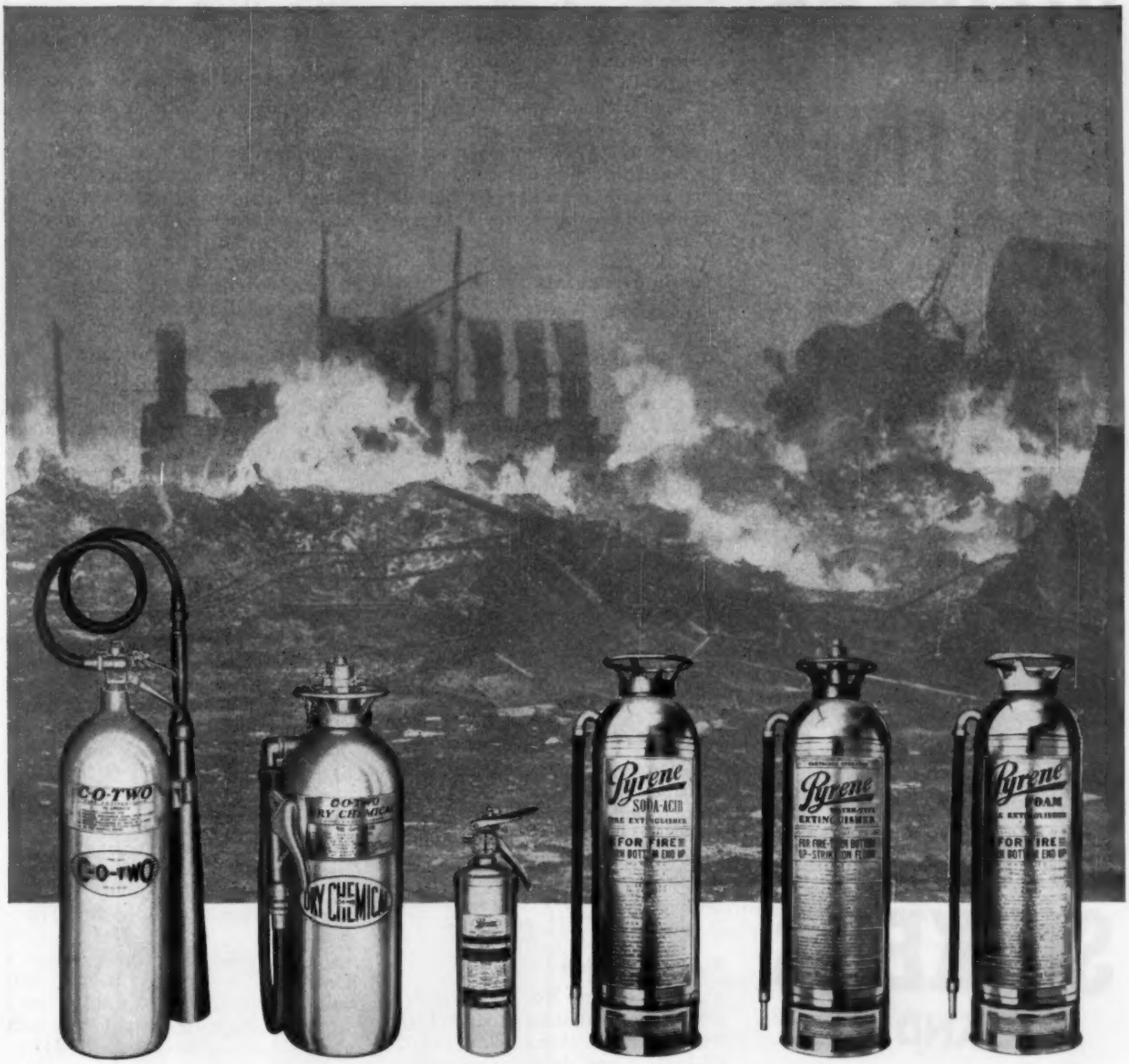
On beam-type machines, varying density can be compensated for with far less danger of "blowing" a beam. Method can also be used to measure individual flows on multiple kier machines.

This new Foxboro System for dye liquor flow measurement can be installed on any recirculating-type dye machine . . . normally without any modification of your equipment. For complete information, write for Engineering Data Sheet 220-52 and installation photographs.

THE FOXBORO COMPANY, 842 NEPONSET AVE., FOXBORO, MASSACHUSETTS, U.S.A.

FOXBORO REG. U. S. PAT. OFF. — **DYE LIQUOR FLOW MEASUREMENT**

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND



ALL TYPES...ANY CLASS FIRE!

Since different fire hazards require different types of fire extinguishers, PYRENE—C-O-TWO manufactures all types . . . the finest and most complete line on the market today.

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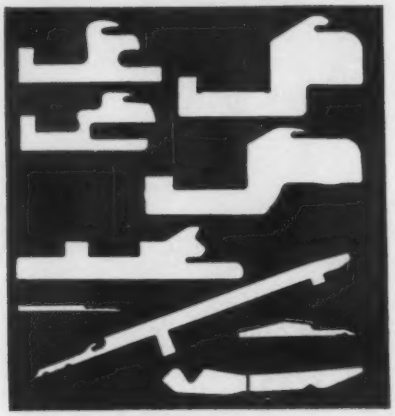
WANT TO KNIT FINER FABRICS AT LESS COST?



THE ANSWER:

IVES SINKERS AND SLIDERS

Ives products also include all shapes and gauges of Jacks and Transfer Points or Quills for circular hosiery machines and all gauges of Guides, Sinkers and Sley Points for Tricot and Raschel machines.

THE LOYAL T. IVES COMPANY, INC.
Est. 1872
NEW BRUNSWICK, N. J.

Temperature Controller

A mercurial thermoregulator for precise control of temperature circuits in viscosity baths and similar operations has been announced by Precision Thermometer & Instrument Co., 1434 Brandywine St., Philadelphia, Pa. Under favorable conditions, constant-temperature baths are said to be controlled within ±0.002° C. by the Magna-Set. (T-51)

Plastic Structures

Reinforced plastic structures for standard tanks, stacks, and ductwork are available from Atlas Mineral Products Co., Houston 20, Tex. Atlas' engineering department will select and design the resin structures for specific applications. (T-52)

Air-Line Lubricators

Major improvements in design of Keller air-line lubricators permit a wider range of feed rates, air volume, and oil viscosities. Made by Keller Tool Co., Grand Rapids, Mich., the lubricators use a porous sintered-bronze wick with a clear plastic enclosure tube to provide two oil-feed ranges. (T-53)

Laminated Pipe

Fluoroflex-T laminated pipe is now available for light-duty use in low-pressure and gravity-feed systems up to 50 psi. Made by Resistoflex Corp., Belleville, N. J., the lightweight pipe handles corrosive liquids at temperatures to 500° F. Lengths: up to 12 ft.; diameters: 1, 1¼, and 2 ins. (T-54)

Rust Protection

Rustex coating No. P-212, available from Ranco Industrial Products Corp., 13,311 Union Ave., Cleveland 20, Ohio, is a new development for protecting metal against rust damage. It penetrates into the rusty surface, absorbs and combines with the rust layer, and stops further rust action. One coat is applied. (T-55)

Liquid Meters

A new series of stainless-steel Rotocycle meters designed to handle corrosive liquids has been introduced by the Meter and Valve Div., Rockwell Mfg. Co., 400 N. Lexington Ave., Pittsburgh 8, Pa. The new meters include 2-in., 100-gals.-per-min., and 3-in., 200-gals.-per-min. bulk plant models and 2-in. pipeline models. (T-56)

Paint Rollers

Paint rollers with a fleece covering of Dacron fiber have been developed by Du Pont Finishes Div., E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. The rollers will not mat or wilt. (T-57)

Neoprene Lining

Neoprene No. 750, a sheet lining available from Carboline Co., 331 Thornton Ave., St. Louis 19, Mo., is a prevulcanized sheet lining with abrasion resistance and protection against acid and alkali corrosion. Applied in the shop, the sheet linings are supplied in rolls 32 to 34 ins. wide in varying lengths. Thicknesses: 1/16, 1/8, and 3/16 in. (T-58)

D.c. Braking Controller

A compact d.c. braking controller no larger than a combination line starter is available from Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa. Available for standard induction motors from ½ to 25 hp., the controller will provide braking torques up to eight times full-load running torque. Application: conveyors. (T-59)

End Wrench

A new end wrench has been developed by Toledo Pipe Threading Machine Co., Toledo, Ohio. The new wrench is designed with an offset handle to permit easy use on pipe in coils or against flat surfaces. Available sizes: 8, 10, 14, and 18 ins. (T-60)

Three Trucks

A rider-operated stacker with a retractable mast and fork assembly is one of three materials-handling developments announced by Automatic Transportation Co., 149 W. 87th St., Chicago, Ill. The other products are a Uni-Grip operator-led tractor that couples with industrial trailers in 2 secs., and a heavy industrial truck with a full-vision cantilever ram. (T-61)

Insulated Shoes

Safety shoes designed for wearing at work exposed to extreme temperatures, hot or cold, are available from Lehigh Safety Shoe Co., Inc., Emmaus, Pa. The entire upper is padded with a thin layer of foamed vinyl for insulation, and the toe has a regular steel toe plate. (T-62)

Clamping Device

A new heavy-duty air-powered clamping device, the Vi-Speed Autovise, Model 663, available from Van Products Co., 3736 W. 12th St., Erie 2, Pa., has 6x6-in. jaws backed with a 4¾-in.-dia. push rod. It is especially adaptable for milling and holding for drilling and tapping. (T-63)

Mop Trucks

Finnell's 2R mop truck is now avail-

A new wetting agent in the ENERGETIC family

Energetic® W-100 wets out instantly as fabrics roll into the bath!

Use this new Armour discovery for rapid wetting all through your mill!

Test any wetting agent you're now using against Armour's new ENERGETIC W-100. You'll find that ENERGETIC W-100 wets much faster, much more thoroughly. It's your key to faster, better scouring, bleaching, dyeing and desizing!

This powerful new synthetic detergent is nonionic—works on *all* fabrics, is *not* affected by textile chemicals. And it's 100% active so you can use really *low* concentrations (only about ⅙ as much as conventional anionic materials). ENERGETIC W-100 is water-white, free-flowing and free-sudsing. And it's unbuilt so you can build it to meet your own mill specifications.

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T-2

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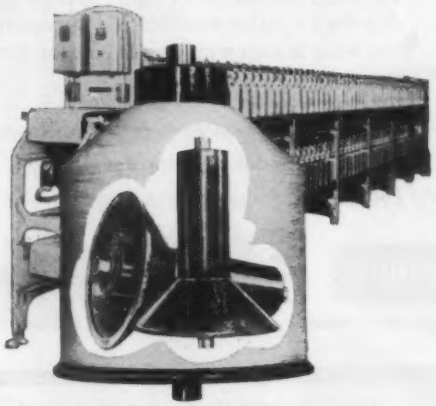
EVERY *Fletcher* MACHINE IS TOPS IN ITS FIELD

"WHIRLWIND" EXTRACTOR

The glass-smooth interior of the Fletcher "Whirlwind" extractor makes this versatile machine completely safe for all fabrics. Numerous outstanding operating features include: automatic hydraulic brake and timer; oversize motor to prevent overheating even under large loads; super-self balancing for safe operation. Several sizes available to fit all needs. Write for descriptive literature.

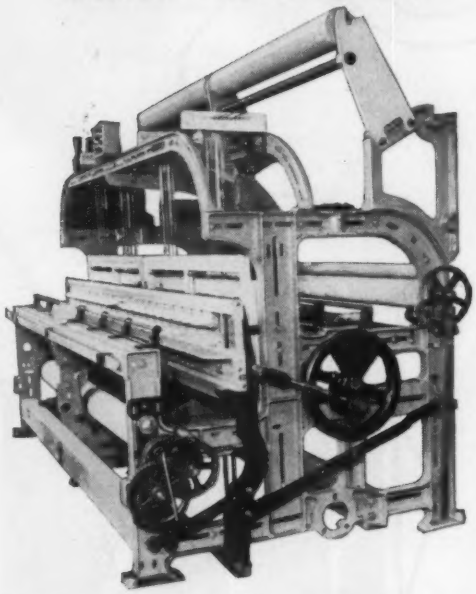
FLETCHER "KING SPOOL" TWISTER



Incorporating a completely new take-up package for overend delivery, without allowing the yarn to slough off, the "King-Spool" Twister is ideal for a wide variety of yarns, including low twist voile yarns and nylon, as well as high twist single and crepe, cable crepe, and combination yarn. The "King-Spool" features a fast traverse, eliminating overlaps and underwinds. It provides for a tail used in magazining.

For over a hundred years, Fletcher Works has been producing top quality machines for the textile industry. The "know-how" and experience which Fletcher has acquired during this period can provide valuable assistance to you. Why not call in a Fletcher engineer who will be glad to go over your particular problems and suggest ways in which they may be overcome . . . There's no obligation, of course.

NARROW FABRIC LOOMS



This semi-automatic, narrow fabric loom, one of Fletcher's latest developments provides for maximum production of top quality tape and ribbon. Its rugged construction permits it to operate safely at high speeds—an extremely versatile unit. For further information, request Bulletin 73.

FLETCHER WORKS

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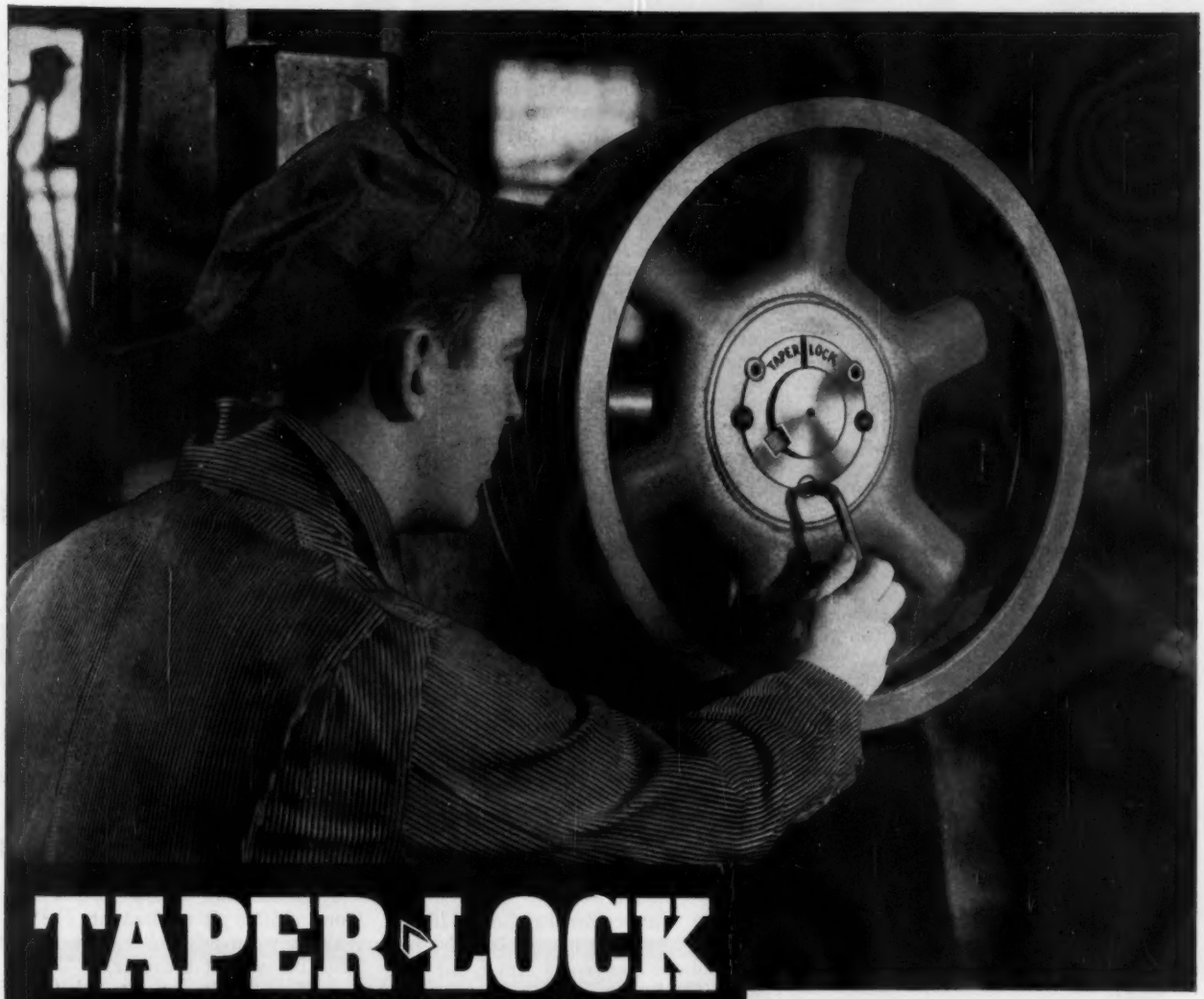

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A PATENTED PRODUCT OF DODGE

The simplest, surest means of mounting wheels to shafts!

Slip it on the shaft, line it up and tighten while sighting! Mount sheaves, sprockets, couplings, conveyor pulleys *quicker*—and more easily—with Taper-Lock bushings. A few twists of a hex wrench and Taper-Lock grips the shaft with the firmness of a shrunk-on fit. It comes off as easily, without shock to bearings or machinery. Bushing seats evenly along entire length of the hub—*wheels run true!*

Standardize on Taper-Lock. You save time and money and keep production rolling with these *interchangeable* bushings. See your Dodge Distributor, or write us for the full Taper-Lock story.

CALL THE TRANSMISSIONEER, your local Dodge Distributor. Factory trained by Dodge, he can give you valuable assistance on new, cost-saving methods. Look for his name under "Power Transmission Machinery" in your classified telephone directory, or write us.

THERE'S ONLY ONE TAPER-LOCK, THE BUSHING THAT MOUNTS FLUSH!

Standardize, economize with Taper-Lock, the bushing that is interchangeable in Dodge sheaves, sprockets, couplings and conveyor pulleys. *More than 2,000,000 in use!*

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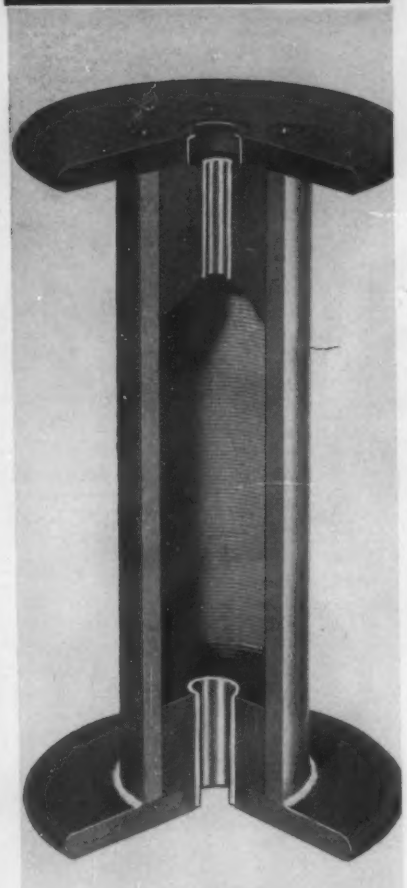
MACK BOBBINS



BUILT TO FOIL NYLON'S GRIP

Construction quality typical of all Mack Bobbins is shown by this cutaway view. Bakelite construction of the head and barrel and brass spindle bearings give this Mack Twister Bobbin the strength and durability to withstand Nylon's mighty grip even with excessive winding tension and prolonged steaming.

ALLENTOWN BOBBIN WORKS, INC.
ALLENTOWN, PENNSYLVANIA

able in stainless steel as well as galvanized. Available from Finnell System, Inc., 1900 East St., Elkhart, Ind., the mop truck has two tanks, which hold 28 gals. each. (T-64)

Tool Grinders

Two new tool grinders, one with 6-in. and the other with 15-in. wheels, have been introduced by Ex-Cell-O Corp., 1200 Oakman Blvd., Detroit 32, Mich. Both are double-end models, and both are suitable for sharpening all types of tool materials—high-speed steels, cast alloys, and carbides. (T-65)

Hydraulic Carton Clamp

A hydraulic clamp designed for palletless handling of a wide variety of cartons has been introduced for use on fork trucks manufactured by Elwell-Parker Electric Co., 4205 St. Clair Ave., Cleveland 3, Ohio. (T-66)

Truck-Cab Air Conditioner

A refrigerated automobile and truck-cab air conditioner selling for around $300 plus installation has been announced by Frigikar Corp., 1602 Cochran, Dallas, Tex. In-car or in-cab temperatures are held within the 70° F. comfort zone. (T-67)

Oil Burner

The Cleaver-Brooks Co., 326 E. Keefe Ave., Milwaukee 12, Wis., has announced the No. 3 Hev-E-Oil burner. The burner is especially suited for installations with a net radiation of 3,800 sq. ft. or 35 boiler hp. (T-68)

PVC Valves

All-molded PVC valves and fittings have been announced by Lunkenheimer Co., Cincinnatti 14, Ohio. The new valve resists most chemicals used in industry. It is presently available in a Y-type globe design. (T-69)

Boiler-Water Treatment

An inexpensive water-treatment device has been developed by Cyclotherm Div., United States Radiator Corp., Oswego, N. Y. The Chemical By-Pass Feeder avoids excessive feed-pump wear by introducing water-treatment compounds on the discharge side of the boiler feed pump. (T-70)

Linear Bearing

Thomson Industries, Inc., Manhasset, N. Y., has started production on a series of all-stainless-steel ball bushings. These ball bearings for linear motion will be manufactured for shaft diameters of ¼, ½, ¾, 1, 1¼, 2, 2½, and 3 ins. (T-71)

Dyeing Dacron

CONTINUED FROM PAGE 87

Latyl Violet BN
Latyl Violet 2R
Latyl Brilliant Blue 2G
Latyl Orange R
Latyl Blue FL
Celanthrene Pure Blue BRS 400%
Acetamine Orange GR (developed)
Latyl Blue B
Acetamine Orange 3R (developed)
Acetamine Diazo Black 3B (developed)
Acetamine Diazo Black RB 150% (developed)

When dyeing is done without a carrier or if the carrier can be completely removed, lightfastness up to 160 to 320 hrs. can be attained if proper combinations are used.

The use of diazotized and developed dyes on Dacron produces navies, blacks, and maroons. Acetamine Diazo Black 3B diazotized and coupled with Developer BON yields a good navy shade on Dacron. Acetamine Diazo Black RB gives a good black.

How Dyeing Is Done

The following method produces dyeings of good shade, crocking fastness, and outstanding fastness to washing and light. It is principally used for raw stock and top.

1. Acetamine Diazo Black RB Conc. 150% is applied at 212° F. with a phenylphenol carrier, or at 250° F. without a carrier.

2. The goods are scoured for 15 to 20 mins. at 160° F. with 1.0 gram per liter each of caustic soda, Du Pont Hydrosulfite Conc., and Product BCO to remove loosely adhering base and carrier.

This step is critical to insure good crocking fastness and to avoid cross-coupling of the base with the phenylphenol on diazotization.

3. Acetamine Developer AD Extra (BON) is applied at 208 to 212° F. from a fresh bath without a carrier.

4. Diazotization is accomplished at 190° F. from a sodium-nitrite-sulfuric-acid bath. Coupling follows spontaneously.

5. Scour at boil for 15 to 20 mins. with the reagents used in Step 2.

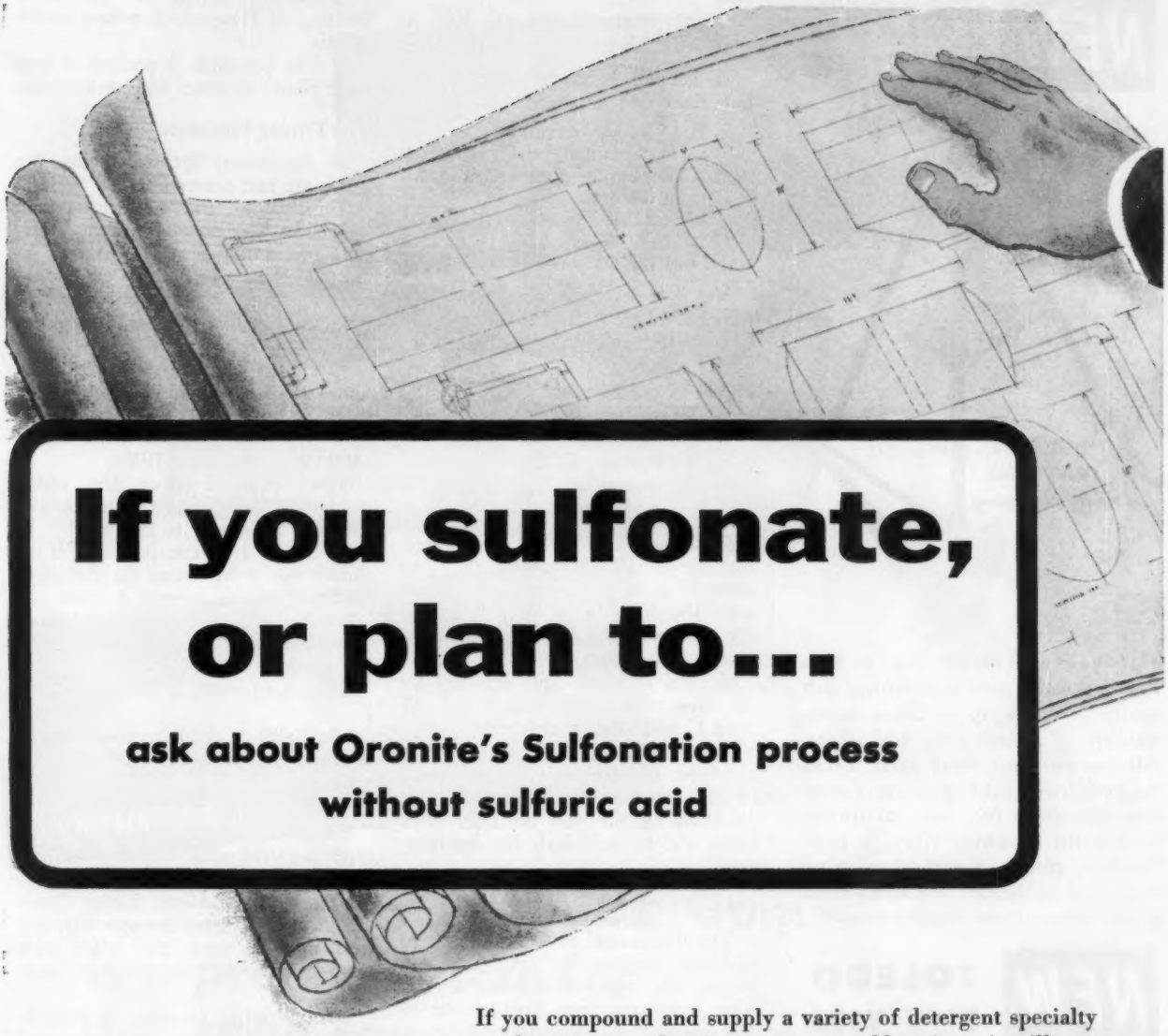
Acetamine and Naphthanil bases that work well are:

Navy
Acetamine Diazo Black 3B

Maroon
Acetamine Orange GR Conc. 175%

Maroon
Acetamine Orange 3R Conc.

Scarlet
Du Pont Naphthanil Scarlet 2G Base



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Oronite Surface Active Agents

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Detergent D-40
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Dispersant NI-O
Wetting Agents

If you compound and supply a variety of detergent specialty products or are planning your own sulfonation—it will pay you to inquire about Oronite's process design which eliminates the acid disposal problem inherent in so many sulfonation systems. Oronite, the world's largest producer of *basic* detergent raw materials, also has plant designs, to fill any processing requirements from one to 10 million or more pounds of finished products annually.

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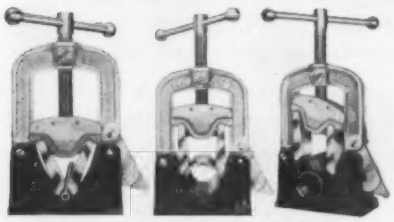
a Sturdy Lightweight Work Bench!

Handy new Toledo No. 8 Vise Stand goes to any pipe-fitting job easily . . . sets up or takes down quickly . . . saves time and effort. All one unit, no loose parts. Extra rugged, won't fold up in use. Large size vise base for easy mounting of Toledo or other vises. 3 pipe benders, plenty of tool slots, pipe rest, ceiling brace. See it now—a great value at your supply house!

NEW TOLEDO PIPE VISE

Exclusive **ROCKING-WEDGE ACTION JAWS!**



Small pipe from ⅛" | Larger pipe to 2½" | Tees, Ells, Valves.

Grips any shape without crushing. Jaw action tends to eliminate marking of pipe. Heat treated jaws. Capacity—No. 1 Vise, ⅛" to 2½". Order through your supplier.

THE TOLEDO PIPE THREADING MACHINE CO. • Toledo 4, Ohio

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Builders of the World's Finest Pipe Tools — Pipe Threaders, Pipe Wrenches, Power Pipe Machines

Red

Du Pont Naphthanil Red G Base

In general, chemical costs are low but there are disadvantages in:

1. Long dyeing cycle
2. High-temperature diazotization resulting in nitrous-oxide fumes
3. Inability to shade dyeing

Vat Dyes on Dacron

Vat dyes may be applied to Dacron from a vat-acid medium at 250° F. The dyeing procedure is:

–	color
7.5	caustic soda
7.5	hydrosulfite
6.0	Compound 8S
4.0	Product BCO
10.0	glacial acetic acid

The dye is vatted for 15 mins. with the caustic, hydrosulfite, and three-fourths of the Compound 8S. The mixture is then brought to volume with the balance of the compound 8S, Product BCO, and acetic acid. Dyeing proceeds for 1 hr. at 250° F. The yarn is rinsed and oxidized for 15 mins. at 212° F. with 5 gpl. Albone C and 2 gpl. acetic acid.

Washfastness of vats on Dacron is excellent, but commercial importance of this method is hampered by a tendency of the vats on Dacron to crock and to yield only fair lightfastness.

Other Dacron-Dyeing Methods

The Thermosol process consists of padding disperse or vat colors on staple, tow, top, or fabric and drying. The goods are then heat-treated to 350 to 400° F. The process is not yet in commercial operation.

Another application consists of padding on color and then steaming under pressure, without drying, at 15 to 30 lbs. per sq. in. for 30 to 45 mins. Fixation and fastness are good.

Dacron-Wool Blends

Union-dyeing of blends comprised of 55% Dacron and 45% wool may be made by one-bath or two-bath methods. Disperse dyes with a carrier are used for the Dacron; and acid, premetallized-acid, premetallized-neutral, or chrome dyes are used for the wool.

The one-bath method is satisfactory, but better shade control is possible with two baths.

A typical application for dyeing Dacron-wool blends emphasizes:

1. The use of a nonionic surface-active agent to minimize wool staining and help transfer disperse dyes from wool to Dacron
2. Careful control of the carrier solution of Dowicide A before acidification
3. The complete dispersion of dyes with plenty of water and an assistant.

The Dyeing Procedure

In the actual dyeing process, the goods are first scoured at 160 to 180° F. for 20 mins. and then rinsed. The Dowicide A is dissolved with caustic soda and ammonia at 160 to 180° F. and added to a fresh bath containing assistants such as Emulphoron (0.25 gpl.) and Compound 8S (0.25 gpl.) at 100° F.

After 10 to 15 mins. of mixing, the Dowicide A solution in the closed dye kettle is brought to a pH of 5 to 6 over a 15-min. period with dilute acetic acid (not over 10%).

The dispersed dyes are added promptly; and over a 45-min. period, the bath is brought to 205 to 212° F. After 1 hr., a sample is taken. If on shade, run 1 hr. more for complete diffusion and maximum fastness.

Cool slowly (30 mins.) to 120 to 130° F. to avoid setting creases in the goods.

Drop bath, refill, and heat to 120° F.

The wool is dyed by conventional methods for the colors selected.

Dacron-Rayon or Dacron-Cotton

Depending on end use, these mixtures are dyed with disperse dyes for the Dacron and direct colors or vats for the cellulose fibers. Either Dowicide A or chlorinated-benzene-type carriers may be used, the latter with consideration for its volatility with steam.

Better control of shade is possible in two-bath processes, and the scouring between dyeings improves lightfastness and crocking on the Dacron.

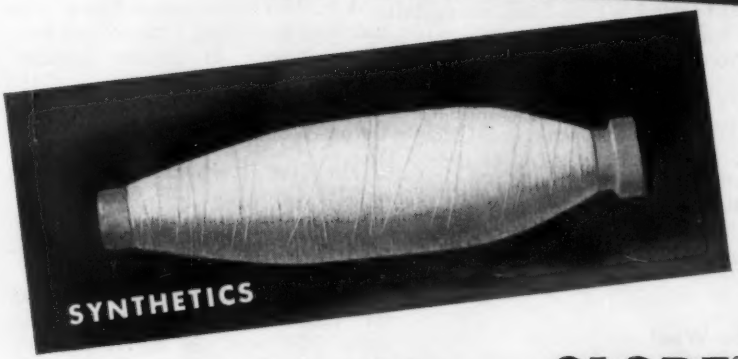
Printing Dacron

Excellent prints with bright, well-defined patterns may be obtained on Dacron with disperse colors. Fixation with steam at 5 to 15 lbs. pressure for 30 to 45 mins. eliminates the need for carriers.

Antistatic Finishes

Dacron tends to develop excess amounts of static in processing and in use.

Durable antistatic finishes are now available that resist washing in soap solutions. Their efficiency is reduced by synthetic detergents, but this loss is counteracted by another washing in soap. Resistance to dry-cleaning depends partly on the solvents and assistants used. Types for pad application or final rinsing operation (substantive) are available.



Why a GLOBE® Gum is a preferred size for spun rayon, spun rayon blends and synthetics

Especially developed for sizing spun rayon and blends of spun rayon, Globe Brand Gum de-sizes readily. It forms a smooth, tough size that eliminates considerable breakage on the slasher and loom. Globe Gum delivers the size concentration you require due to its greater uniformity and stability of viscosity.

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SPECIFICATIONS

VINOL Polyvinyl Alcohols now available in following grades:

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BLENDING Tips From Du Pont

▶ Seven possible combinations of fibers are discussed, and actual percentages of each fiber are given as a blending guide

HERE ARE SOME general conclusions drawn after systematic study of three types of fabric containing varying percentages of Dacron, Orlon, and nylon staple with wool, rayon, and acetate. The fabrics were a plain-weave tropical worsted, a clear-finish worsted twill, and a serge suiting. Weights were from 6 to 12 oz. per sq. yd.

In general, Orlon is best for soft fabrics, especially when face finishes are required. Both Dacron and Orlon can be used to advantage in clear-finish suitings. For great durability and toughness, nylon is the economical fiber to use. Fiber choice depends on cost, performance, and esthetic qualities.

Dacron-Wool

A 65-35 Dacron-wool blend is good to outstanding in almost every characteristic.

From 40 to 70% Dacron with wool provides an excellent range of fabrics. Beyond this range, however, the fabric assumes the characteristics of the predominating fiber. Fabrics containing low or high percentages of either fiber do not benefit to any important degree from blending. At least 40% Dacron should be used, and wool does not make an important contribution in quantities less than 30%.

Dacron-Rayon

The blue-chip area for Dacron-rayon blends is 70% Dacron and 30% rayon. But excellent fabrics can be made with 80% Dacron. Static penalizes performance if less than 20% rayon is used, however.

At least 60% Dacron must be used before the fiber makes a significant contribution. In fact there is a danger area—10 to 25% Dacron—where fabric strength is lower than 100% rayon. So avoid blends with less than 25% Dacron.

Dacron-Cotton

A 65-35 Dacron-cotton blend is an excellent performer. Data are not complete enough to further pinpoint blends of these two fibers.

Orlon-Wool

The best fabrics fall in the range of 70% Orlon and 30% wool. Excellent wash-and-wear fabrics can be made with 80% Orlon, but less Orlon will do in softer women's-wear fabric.

Fabrics that require mill finishing for fulled surfaces should contain about 50% wool. At the 50-50 level, Orlon contributes dimensional stability and some press retention.

Orlon-Rayon

The blue-chip range is about 80% Orlon and 20% rayon. As little as 10% rayon reduces static markedly, and 20 to 25% brings static down to the 100% rayon or cotton level.

Fabrics containing less than 65% Orlon are characteristically rayon-like.

Nylon-Rayon

At least 30% nylon should be used for good performance. Fabrics with less nylon have good abrasion resistance, but there is no strength gain from the nylon.

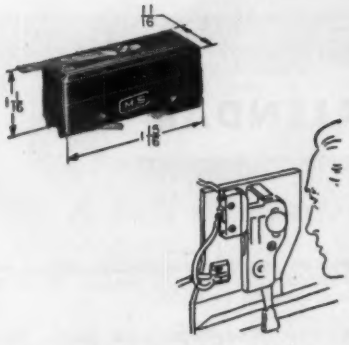
Sanforized shirtings and sheetings should have 30 to 40% nylon. Similar fabrics not Sanforized or stabilized need more nylon for dimensional stability. Pilling protection comes from proper fabric design and finishing.

Nylon-Acetate

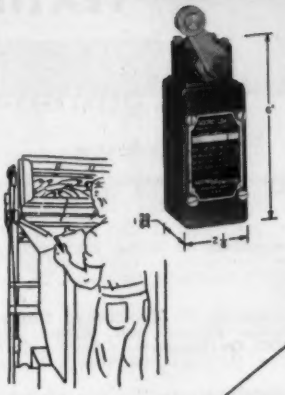
The best blend is in the range of 60% nylon and 40% acetate. Nylon adds launderability to acetate. Only white and pastel shades are currently attainable.

From a paper presented to The Textile Distributors Institute, Inc., by M. K. Ryan, Jr., Manager, Fabric Development, E. I. du Pont de Nemours & Co., Inc.

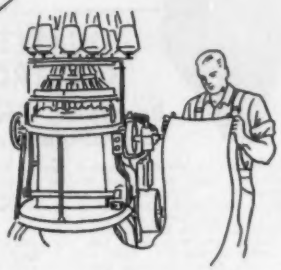
MICRO SWITCH Precision Switches
A PRINCIPLE OF GOOD DESIGN

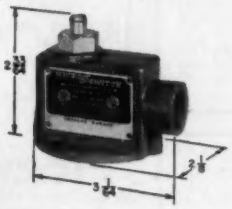


This switch on the bobbin feeler signals need for bobbin refill.



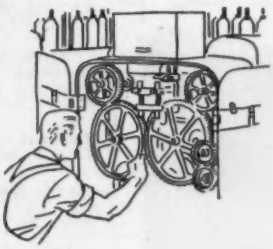
Two switches stop quill hopper carriage at upper and lower limits.

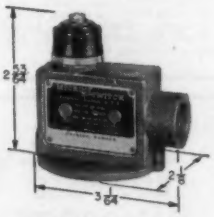




Two switches protect needle beds and stop knitting machine if thread breaks.

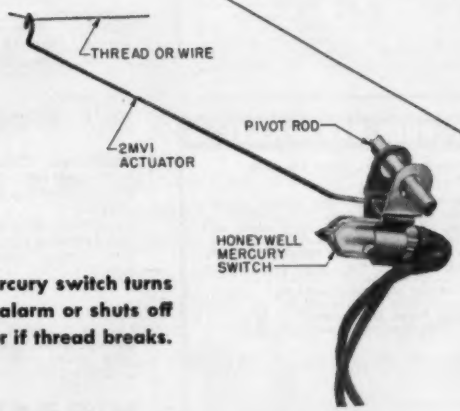
HERE'S **5** MONEY-SAVING IDEAS from textile mill operators





Switch shuts off power when operator opens gear doors on spinning frames.

• These are but a few of the hundreds of uses mill operators have found for MICRO SWITCH products—but a few of the many switch types which make textile machinery more automatic, safer and more productive. Look in the yellow pages for the MICRO SWITCH distributor near you. Call the nearest MICRO SWITCH branch for consultation and advice.



Mercury switch turns on alarm or shuts off power if thread breaks.

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TEXTILE CALENDAR

February

Philadelphia Textile Institute Alumni Banquet, Warwick Hotel, Philadelphia, Pa., Feb. 4.

Symposium on Blend Engineering, Polymer Research Institute, Brooklyn Polytechnic Institute, Brooklyn, N. Y., Feb. 5.

Symposium on Mechanical Properties of Textile Fibers and Yarns, Canadian ATCC, Quebec Sect., Ciba Co. Conference Room, Montreal, Canada, Feb. 11.

Industrial Recreation Conference, Purdue University, Lafayette, Ind., Feb. 12 to 14.

Cotton Research Clinic, sponsored by National Cotton Council, Pinehurst, N. C., Feb. 16 to 18.

Canadian ATCC, Quebec Sect., Physical Science Center, McGill University, Montreal, Canada, Feb. 19.

AATCC, New York Sect., Hotel Statler, New York, N. Y., Feb. 25.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., Feb. 25.

March

AATCC, Western New York Sect., Hamilton, Ont., Canada, March 4.

Symposium on Fiber-Yarn-Fabric Relationships, Polymer Research Institute, Brooklyn Polytechnic Institute, Brooklyn, N. Y., March 5.

National Assn. of Corrosion Engineers, Hotel Palmer, Chicago, Ill., March 7 to 11.

Textile Research Institute, annual meeting, Hotel Commodore, New York City, N. Y., March 10 and 11.

Southern Textile Methods and Standards Assn., Clemson House, Clemson, S. C., March 17 and 18.

AATCC, New York Sect., Kohler's Swiss Chalet, Rochelle Park, N. J., March 18.

Symposium on Mechanical Properties of Textile Fibers and Yarns, Canadian ATCC, Quebec Sect., Ciba Co. Conference Room, Montreal, Canada, March 18.

Canadian ATCC, Quebec Sect., Physical Science Center, McGill University, Montreal, Canada, March 19.

American Cotton Manufacturers Institute, annual meeting, Biltmore Hotel, Palm Beach, Fla., March 31 to April 2.

Southern Municipal and Industrial Waste Conference, College of Engineering, Duke University, Durham, N. C., March 31 and April 1.

April

Symposium on Textile Research, Polymer Research Institute, Brooklyn Polytechnic Institute, Brooklyn, N. Y., April 2.

AATCC, New York Sect., Kohler's Swiss Chalet, Rochelle Park, N. J., April 2.

Alabama Cotton Manufacturers Assn., 50th anniversary meeting, Biloxi, Miss., April 13 to 15.

American Society of Lubrication Engineers, annual meeting, Hotel Sherman, Chicago, Ill., April 13 to 15.

Phi Psi Textile Fraternity, annual convention, Beaconsfield Hotel, Brookline, Mass., April 14 to 16.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., April 15.

Symposium on Mechanical Properties of Textile Fibers and Yarns, Canadian ATCC, Quebec Sect., Ciba Co. Conference Room, Montreal, Canada, April 15.

Textile Exhibition, Canadian ATCC, Sheraton-Mount Royal Hotel, Montreal, Canada, April 21 to 23.

AATCC, Western New York Sect., Buffalo, N. Y., April 22.

AATCC, New York Sect., Kohler's Swiss Chalet, Rochelle Park, N. J., April 22.

Knitting Arts Exhibition, Convention Hall, Atlantic City, N. J., April 25 to 29.

Cotton Manufacturers Assn. of Ga., 55th anniversary convention, Boca Raton Hotel, Boca Raton, Fla., April 27 to 29.

Delta Kappa Phi Textile Fraternity, annual convention, Lowell Tech, Lowell, Mass., April 29 and 30.

May

The Fiber Society, spring meeting, School of Textiles, Alabama Polytechnic Institute, Auburn, Ala., May 4 and 5.

International Silk Congress, Brussels, Belgium, May 9 to 14.

AATCC, New York Sect., Kohler's Swiss Chalet, Rochelle Park, N. J., May 20.

June

Southern Textile Association, annual convention, Mayview Manor, Blowing Rock, N. C., June 16 to 18.

Materials Handling Exposition, International Amphitheater, Chicago, Ill., June 16 to 20.

International Textile Exhibition, Brussels, Belgium, June 25 to July 10.

American Society for Testing Materials, annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., June 26 to July 1.

International Congress of Scientific Research in the Textile Industry, The Centre Scientifique et Technique de l'Industrie Textile Belge, 24, rue Montoyer, Brussels, Belgium, June 27 to 29.

September

The Fiber Society, fall meeting, Mass. Institute of Technology, Cambridge, Mass., Sept. 8 and 9.

Chemical Finishing Conference, National Cotton Council, Chalfonte-Haddon Hall, Atlantic City, N. J., Sept. 20 and 21.

AATCC, national convention, Chalfonte-Haddon Hall, Atlantic City, N. J., Sept. 21 to 23.

Northern Textile Assn. and National Assn. of Cotton Manufacturers, annual convention, Wentworth-By-The-Sea, Portsmouth, N. H., Sept. 29 and 30.

Machine Tool Show, International Amphitheater, Chicago, Ill., Sept. 6 to 17.

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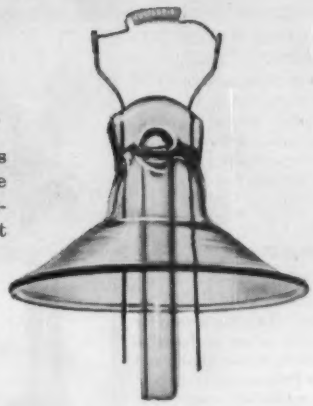

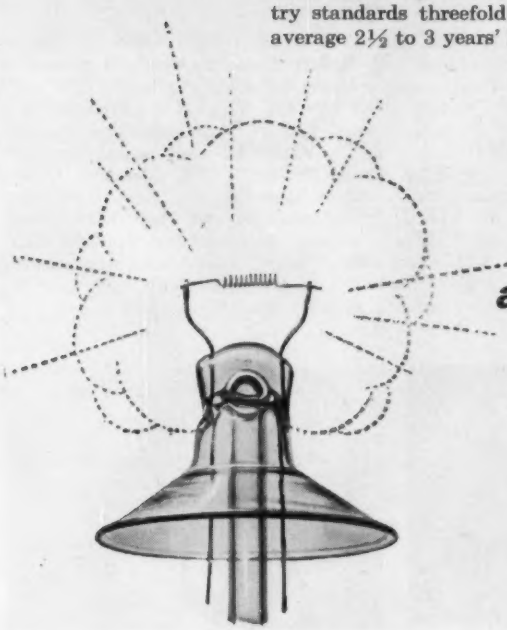

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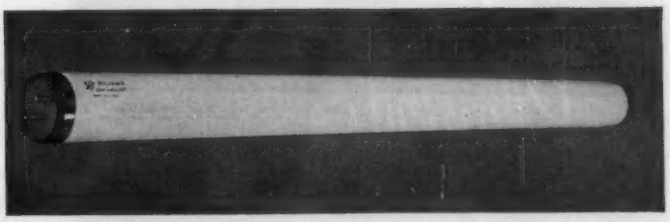

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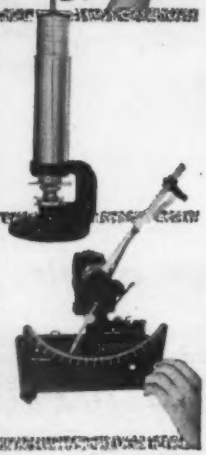

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ALLIED CHEMICAL & DYE CORP., National Aniline Div., New York, N. Y.—Robert Ellsworth appointed promotion and advertising manager of the Fiber Sales & Service Div. . . . **AMERICAN ASSOCIATION OF TEXTILE CHEMISTS & COLORISTS**, Lowell, Mass.—George O. Linberg, George L. Baxter, Joseph H. Jones, and Dr. Walter M. Scott elected vice presidents. . . . **AMERICAN MONORAIL CO.**, Cleveland, Ohio—Has organized the Canadian MonoRail Co. Ltd., Galt, Ont. Quigg Lohr named general manager and Earl Balke named works manager. The company has purchased Landahl Conveyor Co., Columbus, Ohio. The following officers were elected: John L. Pischke, president; Carl Harris, secretary; J. P. Landahl, general sales manager. At Cleveland, C. L. Fell named vice president in charge of marketing. . . . **AMERICAN VISCOSE CORP.**, Philadelphia, Pa.—Robert A. Smith named head of the newly formed Spinning Div.; William W. Bowman named head of the new Staple Technical Sales Div.; Dr. Wayne A. Sisson named leader of the new Tire Yarn Section; James B. Maginnis will assist Dr. Sisson. . . . **ARROW NEEDLE CO.**, Manchester, N. H.—Will begin construction of a new plant this spring. . . . **ATLANTIC STEEL CO.**, Atlanta, Ga.—Is constructing an addition to its warehouse that will increase storage area by 50%. . . . **BARNES TEXTILE ASSOCIATES, INC.**, Boston, Mass.—Jan Verschoor will be temporarily associated with company in planning and preparation of programs for improved craft training of textile workers. . . . **BORDEN CO., CHEMICAL DIV.**, New York, N. Y.—J. Spencer Brown, III, named advertising manager. . . . **BRISTOL CO.**, Waterbury, Conn.—Application engineering and the socket-screw sales and application departments have moved into a new addition. Construction is nearing completion on the expansion of the manufacturing plant. . . . **BRUSH ELECTRONICS CO.**, Cleveland, Ohio—Harry R. Kennedy and Felton B. Bailey named field service men for the Southeastern Textile Instrument Sales & Service Office, Greenville, S. C. . . . **CELANESE CORP. OF AMERICA**, New York, N. Y.—Ralph H. Balch named manager of the Hopewell, Va., plant. . . . **C. R. DANIELS, INC.**, Daniels, Md.—Has increased production at its Maryland and North Carolina plants. . . . **E. I. DU PONT DE NEMOURS & CO., INC.**, Wilmington, Del.—Has completed a new laboratory for research on pigment colors at its Newark pigments plant. Company has realigned the textile-fibers sales organization to put

THEOPHIL H. MUELLER (left) has been appointed assistant to the president at the Torrington Co., Torrington, Conn. HARRY COATESWORTH (center) has been named chief engineer of the Development Dept., Cleveland Crane & Engineering Co., Wickliffe, Ohio, and KURT R. WEISE (right) has been named chief engineer of the Cleveland Tramrail Div.

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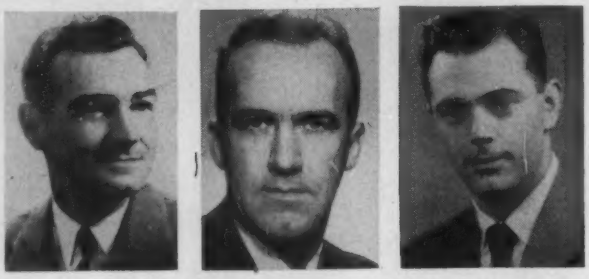
NEWS ABOUT SUPPLIERS *(Continued)*



WALTER MURRAY (left) will devote his full time to customer relations and field engineering problems at Mount Hope Machinery Co., Taunton, Mass. WILLIAM M. GALLAHUE (center) has been appointed general sales manager at Mount Hope. DONALD S. BLACK (right) has been appointed to the sales-service section in the Chemical Div. of Goodyear Tire & Rubber Co., Akron, Ohio.

more emphasis on all aspects of merchandising. Lester S. Sinness has been named general director of sales for the department. . . . **ERNEST L. FRANKL ASSOCIATES**, New York, N. Y.—Has been appointed exclusive representative in the United States for Josef Pfenningsberg & Co., M. Gladbach, Germany. . . . **ROBERT GAIR CO., INC.**, New York, N. Y.—Has purchased the Harvey Container Corp., Plymouth, Mich. . . . **GEIGY CHEMICAL CORP.**, New York, N. Y.—Dr. Rolf Bernegger named manager of the Cranston, R. I., plant. Don M. Jones named plant engineer. . . . **GENERAL ELECTRIC CO.**, Pittsfield, Mass.—Dr. Robert H. Krieble named manager of the Chemical Development Dept. . . . **S. C. LAWLOR CO.**, and **PETER BOLLER MACHINE CO.**, Chicago, Ill.—Have merged and will operate as S. C. Lawlor Co. New officers are Walter G. Ashton, president, and Gordon H. Kerber, secretary-treasurer. . . . **LOCKWOOD GREENE ENGINEERS, INC.**, New York, N. Y.—Has elected Samuel B. Lincoln chairman of the board; William J. Heiser, president and treasurer; and

FRED H. HALLENBECK (left) has been appointed director of Southern sales for Scott & Williams, Inc., with headquarters in High Point, N. C. WALTER E. HILDICK (center) has been named treasurer of Curtis & Marble Machine Co., Worcester, Mass. RAYMOND W. JACOBY, Ciba Co., Inc., New York, N. Y., (right) has been elected president of the American Association of Textile Chemists & Colorists, Lowell, Mass.

H. Morgan Rogers, Jr., vice president. . . . **MONA INDUSTRIES, INC.**, Paterson, N. J.—Has opened a new branch office and warehouse in Greenville, S. C. This division will be known as Mona Southern, Div. of Mona Industries, Inc. . . . **ROBERT REINER, INC.**, Weehawken, N. J.—Fritz Lambach has assumed active management of the company, assisted by John A. Vollman and the following executives: Karl T. Marx, Edwin Thaler, Emil Bader, Leo Smith, Joachim Koegler, and Walter Horn. . . . **C. G. SARGENT'S SONS CORP.**, Graniteville, Mass.—Has appointed Cosa Export Co., Inc., New York, N. Y., to handle textile machinery and parts for the woolen and worsted industries in Japan and Korea. . . . **SCOTT & WILLIAMS, INC.**, Laconia, N. H.—William O. McMillan named vice president in charge of engineering at Laconia, N. H. Alton W. Neally appointed manager of the Chattanooga, Tenn., sales office; John Seymour transferred to the sales staff at High Point, N. C.

Making A Science Of Credit

When you do not know enough about a credit risk you fear to take the risk. You have enough to do taking care of production and distribution without worrying about the unknown factor.

But what is unknown to you may be known to Crompton. Our business is credit. We have nothing else to do but determine credit, extend credit, and supply cash for receivables without recourse. We do this to the tune of multi-millions a year – in many industries.

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A large southern mill compared its operation for a year prior to installation of "Adamstop" with the year following installation.

Results: Operators earned 9¢ more per hour; efficiency increased 6%.

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- PLUGGED FLYER
- SLIVER RUNOUT
- SINGLING FROM DRAWING

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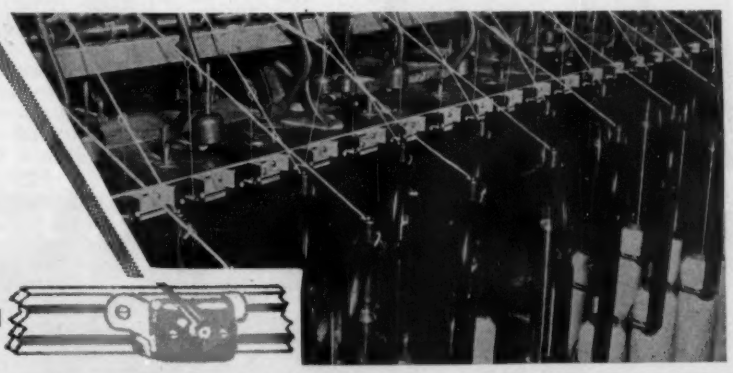
- LESS WASTE
- LESS OPERATOR TIME
- LESS ENDS DOWN
- NO DOUBLINGS
- PROPER LAY AND TENSION
- "SNOW STORM" ELIMINATION
- IMPROVED YARN QUALITY



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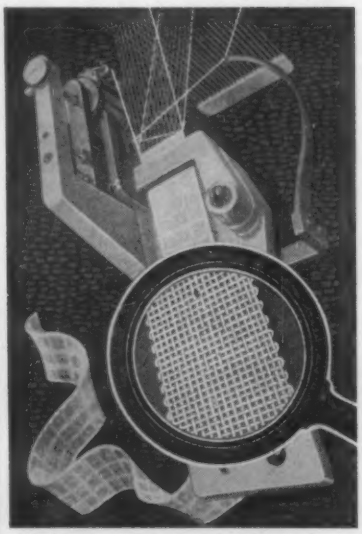

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This Unit Is Fitted:

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2) **To Most Makes of Shuttle Looms, Reducing Labor Costs by 80% and Triplicating Previous Production.**

SEE TEXNOVO LOOMS RANGE AT THE BRUSSELS INDUSTRY FAIR

TEXNOVO S.P.A. Via Revere, 8
ITALY MILAN

COTTON MILLS

American Lace Co., Philadelphia, Pa., has acquired the patterns and equipment of the Nottingham lace division of Patchogue-Plymouth Mills Corp., Patchogue, N. Y. Machinery will be transferred to Philadelphia.

Cheraw Cotton Mills, Inc., Cheraw, S. C., has completed a $650,000 modernization program. New equipment has been added to the card room, spinning room, and winding section, and other machinery was reconditioned. Central-station air conditioning has been installed in the spinning and winding departments, and overhead cleaners have been added. Additional improvements will be made in the future.

Clarkesville Mill, a division of United Merchants & Manufacturers, Clarkesville, Ga., has purchased six radial automatic quillers from Abbott Machine Co.

Cross Cotton Mills, Marion, N. C., has placed an order for 17,000 Saco-Lowell Duo-Roth change-overs for its spinning department. The company recently completed the installation of 10 10x5 Saco-Lowell fly frames with FS-2 drafting systems and new Saco-Lowell combers.

Denison Cotton Mill Co., Denison, Tex., has an expansion program under way that will cost $300,000.

Farragut Carpet Mills, Inc., Chattanooga, Tenn., has begun operations on cotton and synthetic-fiber carpets. Charles B. Keables is the president.

Groves Thread Co., Gastonia, N. C., recently opened its new Plant No. 3 that contains 30,000 sq. ft. of floor space. At present, only half the plant is equipped for operation. The balance of the equipment will be installed during 1955.

Joanna Cotton Mills Co., Joanna, S. C., is replacing its wire card clothing with metallic clothing. To date, 45 of the mill's 294 cards have been changed over. The remainder will be replaced as existing wire clothing needs replacement.

Kingston Mills, Kingston, Ga., has negotiated a loan of $100,000 from the Small Business Administration, Washington, D. C., for general operations.

Pacolet Mfg. Co., Pendleton, S. C., has awarded the contract to Fiske-Carter Construction Co., Spartanburg, S. C., at $61,680 for an addition to the warehouse at its Gerrish-Milliken Mill.

Patrick Rug Co., Los Angeles, Calif., is constructing a one-story, 10,000-sq.-ft. addition to its cotton and rayon rug mill on West Ann St.

Pepperell Mfg. Co., Abbeville, Ala., has let the contract at $94,000 to Batson-Cook Co., West Point, Ga., for an addition to its mill. Robert & Co. Associates, Atlanta, Ga., is the architect-engineer.

F. W. Poe Mfg. Co., Greenville, S. C., has let the contract for a 50,000-sq.-ft. weave shed to Potter & Shackleford Construction Co. The new addition will enable the company to rearrange its present machinery. The company has completed the change-over of all spindles to Whitin Superdraft.

Quitman Mfg. Co. and the Clarke County Board of Supervisors, Quitman, Miss., have received a low bid of $204,976 from L. C. Sykes & Son, Quitman, for an addition to the Quitman mill that will be occupied by the company under lease.

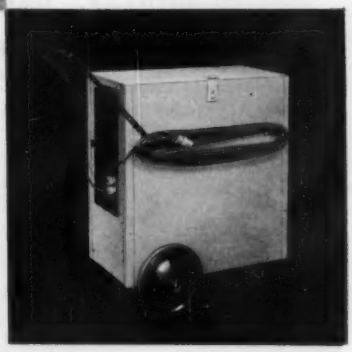
Springs Cotton Mills, Lancaster, S. C., has purchased 40 used spinning frames and will

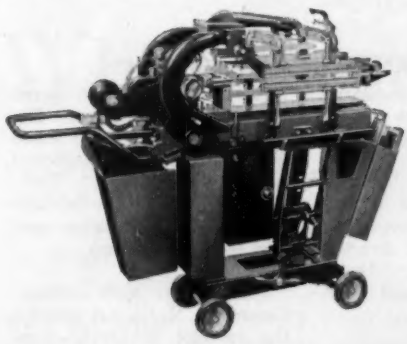
BARBER-COLMAN

SERIES "M" MODELS NOW MADE IN **10** SIZES
FROM 36" TO 126" BY 10" VARIATIONS

PORTABLE *Warp-Tying Machines* FOR ALL PURPOSES

The BARBER-COLMAN line of warp-tying machines has now been extended to cover practically every conceivable application. As noted above, the Type "M" machines are now available in *ten* sizes. These machines tie the *full width* of the warp in one operation, work directly in back of the loom, and are made in several types to tie-in cotton, spun yarns, filaments, wool, worsteds, or synthetic yarns from a flat sheet or from an end-and-end lease. When using a Type "M" Warp-Tying Machine, none of the weaving elements need be removed nor any of the loom settings disturbed. The picture at the right shows the special cart used for protecting the Knotter Unit when not in use and for carrying it from one frame to another when two or more are employed. This carrier also contains the variable speed-controller for the Knotter Unit. These machines are probably the most versatile available for most mill conditions.





IMPROVED SERIES "L" MODELS IDEAL FOR CERTAIN CONDITIONS

BARBER-COLMAN Model "L" machines are familiar to two generations or more of mill people, because they have been on the scene in one form or another for 45 years. The latest designs, one of which is shown here, have many up-to-date improvements which distinguish not only their appearance but also their operation and efficiency. These compact, versatile, and easily-moved machines have many important applications in both large and small mills. Barber-Colman representatives are thoroughly versed in the usefulness and applicability of both Model "L" and Model "M" machines, and can be consulted with confidence as to which might suit a given situation best. Also, it is important to know that all users of Barber-Colman machines are served promptly and skilfully by an alert service group of wide experience.

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ASSEMBLY PLATE — Holds internal parts in position when head is removed.
SELF-SUPPORTING — Needs no external supports of any kind.
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on this Series 3000 Johnson Joint and the syphon elbow. Remember Johnson Joints have written an unmatched service record . . . are first choice among mill men and machinery makers alike . . . and can fit all operating needs.

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Any construction to your specifications using any fiber for Men's Wear, Dress Goods, Upholstery, Draperies, Automotive, and so on. Twists, Boucles, Ratines, Knots, Nubs ——

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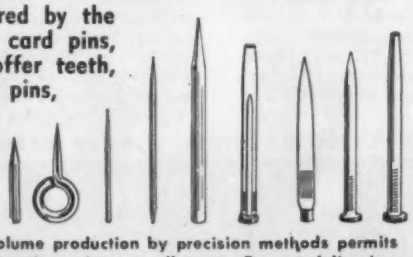
PINS, LAGS, PICKERS & PARTS

Everything required by the textile industry: card pins, cordage pins, doffer teeth, apron slats, slat pins, dryer plates, brass tenter plates, corrosion resistant pins.



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NEWS ABOUT MILLS *(Continued)*

equip them with Pneumafil.

Textiles, Inc., Gastonia, N. C., has spent about $100,000 on re-equipping its Arkray and Ridge units. The new equipment that has been installed includes 15 Saco-Lowell twisters that have been divided between the two plants.

WOOLEN AND WORSTED MILLS

Carpetcrafts, Inc., Los Angeles, Calif., recently organized, has begun the manufacture of tufted wool carpeting in temporary quarters.

Greenville Mills, Inc., Greenville, Miss., new plant of Alexander Smith, Inc., recently started operations. Full production is expected to be reached in about six months. Air conditioning has been installed throughout the mill. The total cost was about $12,000,000.

Heritage Carpet Mills, Chattanooga, Tenn., has started preliminary runs of its two 18-ft. carpet-tufting machines in its new plant at 4900 Hooker Road. Each machine has a capacity of 30,000 sq. yds. per week.

Jefferson Mills, Jefferson, Ga., is constructing an addition to its mill. Robert & Co. Associates, Atlanta, Ga., is the architect and engineer.

Alexander Smith, Inc., Yonkers, N. Y., has let the contract to Walter Kidde Constructors, Inc., New York, N. Y., for a new warehouse near New Brunswick, N. J. The cost is estimated at $500,000.

Wilton Woolen Co., Wilton, Me., has sold its Winthrop, Me., plant to W. W. LeVeen and E. P. LeVeen, Jr., officers of Carleton Woolen Mills, Inc., Rochdale, Mass. Production emphasis will be on washable woolens for sportswear.

SYNTHETICS MILLS

Artloom Carpet Co., Philadelphia, Pa., is planning to build a new branch mill at Forsythe, Ga., for the manufacture of nylon and rayon blended carpets and rugs. The cost is reported at about $500,000.

Premium Spinning Mills, Inc., Mooresville, N. C., has changed its name to Templon Spinning Mills, Inc. Production began at this new plant last September.

Puritan Looms, Inc., Philadelphia, Pa., has completed a modernization program that included the installation of a Morrison Machine compressive shrinker, Warner & Swasey pin drafters, and Pacific converters.

KNITTING MILLS

Apex Knit of California has moved to 330 S. Los Angeles St., Los Angeles, Calif.

Apex Knitting Co. Ltd., Toronto, Ont., has been incorporated with a capitalization of $75,000. Provisional directors include Charles M. Ricketts, John M. Lowndes, and T. S. Farley.

Arc Knitwear Mills, Brooklyn, N. Y., is adding 20,000 sq. ft. of floor space at its present location, 369 St. Marks Ave.

Beerin Knitwear, Inc., Hickory Grove, N. C., will move its operations to a new building now under construction at Whitmire, S. C. The new building contains 25,000 sq. ft.

Brooks County Hosiery Mill, Quitman, Ga., is now operating the former Quitman Hosiery Mill, which it has leased from Bryan Full-Fashioned Mills, Chattanooga, Tenn. About 100 Wildman full-fashioned machines are being operated on 15-den. nylon.

Burlington Mills Corp., Greenville, N. C., has awarded the contract to Daniel Construction Co., Greenville, S. C., for a hosiery plant to be constructed near Franklin, N. C. The cost is estimated at $3,000,000. Completion is expected this spring.

Carolina Corp., Clover, S. C., will soon move to a 30,000-sq.-ft. building adjacent to the Jefferson Bleachery, Jefferson, S. C. New equipment will be added at the new location.

What's your excuse for shiners?

Simply by installing Kidde Compensators, more than 500 leading textile mills have put an end to shiners, loose ends and a host of other tension problems. You can do the same.

For moderate yarn speeds and tensions, get Kidde *Standard* Compensators — adjustable from 10 to 120 grams or 100 to 300 grams. They insure constant output tension, help you produce a *quality* product at less cost.

If you run delicate yarns at high speeds, get Kidde *Double Disc* Compensators. They maintain constant tension at the quill, improve quality and efficiency at the loom. Result — less costly down time, fewer rejects.

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NEWS ABOUT MILLS *(Continued)*

Chatelaine Hosiery Ltd., St. Johns, Que., has changed its name to Orlene Fabrics Ltd.

Dixie Knitwear, Inc., Charlotte, N. C., has moved its plant to larger quarters at 311 E. Fifth St. The new location contains 7,500 sq. ft. of floor space.

Exeter Hosiery Mills, Inc., Long Island City, N. Y., has purchased the Wilmington Hosiery Mills, Inc., Wilmington, Del.

Fairview Hosiery Mills, Hickory, N. C., has begun the construction of a plant addition.

Hadley Corp., division of Cashmere Corp., Cleveland, Ohio, has completed its new plant at Weaverville, N. C., and has started the production of full-fashioned sweaters. Lockwood Greene Engineers, Inc., Spartanburg, S. C., was the architect-engineer.

Hanes Hosiery Mills Co., Winston-Salem, N. C., has begun the construction of a $400,000 one-story building that will provide facilities for additional manufacturing equipment, an enlarged medical department, and more locker space.

Karen Dale Mills, Douglas, Ga., has been organized to make seamless hosiery. Principals are M. S. and Z. S. Gordon and N. G. Store.

Mayo Knitting Mills, Tarboro, N. C., has let the contract for the construction of a new knitting mill to H. L. Coble Construction Co., Greensboro. J. E. Sirrine Co., Greenville, S. C., is the architect-engineer.

Myles Hosiery Mills, High Point, N. C., has been formed by I. Cabot, formerly of Lowell, Mass. The company has leased one of the knitting units of Terry Hosiery Mill at High Point. The company will make men's, boys' and misses' anklets of Helanca.

Oneita Knitting Mills, Utica, N. Y., will transfer all operations to its plant at Andrews, S. C.

Pitman Hosiery Mills, Laconia, N. H., will move to new quarters on the second floor of the former H. H. Wood Co. mill in the Lakeport section of Laconia.

Statesville, N. C.—Benton M. Edgar of Ashtabula, Ohio, will establish a woolen-sweater plant in the building formerly occupied by Walton Hosiery Mills.

Swiss-Knit Ltd., Kitchener, Ont., has been incorporated with a capitalization of $50,000. Provisional directors include June R. McKay and Kathryn M. Keller of Kitchener.

Valdese Mfg. Co., Valdese, N. C., is increasing its warehouse space by erecting a 50x70-ft. building. The cost will be $40,000.

Williamson Hosiery Mills, Athens, Tenn., has consolidated into its organization the Volunteer Processing Co., Inc., Maryville, Tenn. The corporation will continue as Williamson Hosiery Mills.

Wonderknit Corp., Galax, Va., has acquired 20,000 sq. ft. of additional manufacturing space. The knitting, dyeing, finishing, and sewing departments are now all housed in the Galax location.

DYEING AND FINISHING PLANTS

Cold Spring Dyeing & Processing Co., Inc., has been formed to assume the operations of the Cold Spring Dyeing & Finishing Co., Inc., Beacon, N. Y. Joseph DeLuccia will be chairman of the board. Officers and operations will continue unchanged for the present.

Industrial Dyeing Corp., Charlotte, N. C., has been chartered to dye, color, or treat fabrics of all kinds. The company is a successor to Industrial Dyeing Corp. of N. C.

Kendall Co., Walpole, Mass., has plans under way for a finishing plant at Bethune, S. C.

Keystone Dyeing Co., Inc., Philadelphia, Pa., has completed a major expansion of its dyeing facilities for sweaters and knitted fabrics of synthetic yarns.

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. . . technical help in bleaching?

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Whatever you bleach—wool, cotton, rayon, synthetics or blends—Du Pont's *complete* textile bleaching service is especially designed to help you maintain peak efficiency. Here's what the pioneer in the field offers you:

TOP QUALITY HYDROGEN PEROXIDE. Prompt, dependable delivery of "Albone"* hydrogen peroxide—in drums, tank trucks, and tank car lots—is assured from Du Pont's modern manufacturing plants located near northern and southern textile centers.

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A New Modern Design
Railway Sewing Machine

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AVAILABLE IN 3 STYLES

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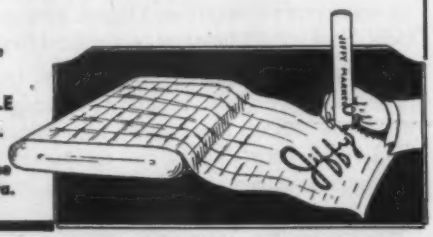

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GREENVILLE, S. C. FALL RIVER, MASS.

NEWS about MEN

F. Eugene Ackerman has resigned as vice president and director of sales coordination, merchandising, and advertising at Botany Mills, Inc., Passaic, N. J.

Mrs. Johanna Attenberger has been named president of Midvale Knitting Mills, Midvale, N. J.

L. Hugh Ballard has been named general superintendent of the finishing department of American & Efird Mills, Mount Holly, N. C. **Arthur Veevers** has been named superintendent of the thread plant.

John G. Bannister has been named to the newly created position of first vice president for National Automotive Fibres, Inc., Detroit, Mich.

Walser A. Blackwood and **John D. Siewers** have been elected to the board of Washington Mills Co., Mayodan, N. C.

Henry M. Bliss has retired as president and a director of Pacific Mills, Boston, Mass.

Leon Brumberger has been named vice president of Wilco Hosiery Mills, Inc., Helen, Ga.

Ernest N. Chamberlain has been elected vice president in charge of all operations at Botany Mills, Inc., Passaic, N. J.

W. C. Chester has been named treasurer and controller of Chicopee Mfg. Corp., New Brunswick, N. J.

Roy Coffee and **Everett Drake** have been elected vice presidents of Wamsutta Mills, New Bedford, Mass. **Ralph M. Allaire**, **Norman Layton**, and **Charles Snyder** have been elected assistant vice presidents.

Charles L. Cohen has been elected chairman of Opelika Mfg. Corp., Opelika, Ala. **Herbert B. Shower** succeeds Mr. Cohen as president.

HOWARD BERGMAN has been named vice president of Associated Spinners, Inc., Gastonia, N. C.

Raymond J. Doyle has resigned as assistant treasurer of Flagg-Utica Corp., Utica, N. Y.

Joe H. Easley and **J. J. Adams** have been appointed vice presidents of Rock Hill Printing & Finishing Co., Rock Hill, S. C.

C. V. Elrod has been appointed superintendent of Osage Mfg. Co., Bessemer City, N. C.

Ned Feldman has been elected vice president in charge of administration at Sidney Blumenthal & Co., Rocky Mount, N. C.

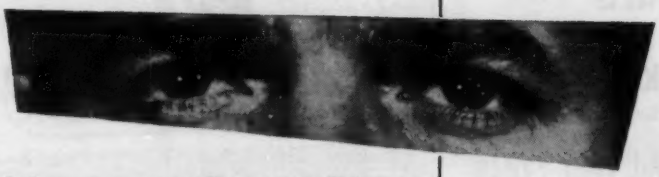
W. J. Fullerton has been elected a vice president of Mooresville Mills, Mooresville, N. C.

Robert F. German has been elected secretary of Charlottesville Woolen Mills, Inc., Charlottesville, Va.

George W. Gibson has been elected a vice president of William Skinner & Sons, Holyoke, Mass.

A. H. Goddard has been named overseer of woolen finishing at Goodall-Sanford, Inc., Sanford, Me.

Alfred Guidotti has been



How much credit would YOU extend?

Client: Garment Manufacturer
Capital: $38,000
Experience: 1-2 years
Record: Clear
Volume: $600,000

How much credit would YOU extend?

☐ $10,000
☐ $25,000
☐ $75,000

WHY NOT LET TALCOTT'S CREDIT DEPARTMENT CHECK THESE PROBLEM ACCOUNTS?

Make your credit policy liberal and profitable with a Talcott Factoring plan.

OUR SECOND CENTURY — JT INC. — FOUNDED 1854 — FACTORING AND FINANCING

JAMES TALCOTT, INC.
FACTORS

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Financial 6-1444

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ORegon 7-3000

Thomatex installation with Central Air Exhaust, combines advantages of individual units and central station. Thomatex uses a minimum of power. Motor and fan are directly coupled and located in the air stream. Seamless Duraluminum Suction Tubes specially coated.

Thoma Cleaner

"Thomatex"

The suction device for cotton and wool ring spinning frames and carding sets.

• •

Rotafils
for roving frames

• •

Thoma Company
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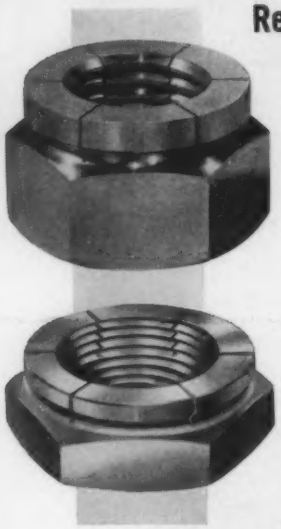
Sole Agents for U.S.A. and Canada

Stellite American Corp.
60 East 42nd Street
New York 17, N. Y.
***Tel:* MUrray Hill 7-0413**

specify standard

FLEXLOC® SELF-LOCKING NUTS

Regular and Thin Types



Regular FLEXLOCS are one-piece, all-metal, standard height nuts that lock securely, even under extreme vibration. Thin nuts have the same one-piece, all-metal construction and the same positive locking principle, but these nuts are approximately 30% thinner. Your FLEXLOC industrial distributor stocks both types: regular FLEXLOCS in sizes from #4 to 2"; thin FLEXLOCS in sizes from #6 to 1½". Ask him for catalog information and samples. Or write STANDARD PRESSED STEEL Co., Jenkintown 35, Pa.

FLEXLOC LOCKNUT DIVISION

SPS
JENKINTOWN PENNSYLVANIA

COLOR MATCHING

DOESN'T HAVE TO BE A PROBLEM

See the ANALYTE COLOR COMPARATOR advertisement in your Textile World Fact File Issue, page 190.

The new ANALYTE COLOR COMPARATOR is the answer.

CROWN ENGINEERING AND SALES CO.
421 Hill Street Harrison, N. J.

MILTON
NYLON & RUBBER YARN
BEAMS

MILTON aluminum alloy Tricot and Section Beams feature CONTINUOUS WELDED CONSTRUCTION

Drop-forged, heat-treated aluminum alloy heads and extra heavy barrels withstand pressures of nylon and rubber warps.

WRITE FOR FREE BULLETINS
No. 54-S (Steel Beams) No. 49-A (Light Metal Beams)

MILTON MACHINE WORKS, INC.
MILTON • PENNA.

NEWS ABOUT MEN *(Continued)*

named assistant to the president of Clinton Woolen Mfg. Co., Clinton, Mass.

Norman Hamel has been named overseer of dyeing at A. D. Ellis Mills, Inc., Monson, Mass.

Chester G. Hames has been named supervisor of weaving at the Clarkesville Mill, a division of United Merchants & Manufacturers, Inc., Clarkesville, Ga.

Edward G. Hansen has been named head dyer for Colgate Piece Dye Works, Hawthorne, N. J.

Valentine J. Harper and **William M. Grosvenor, Jr.**, have been named vice presidents of Sidney Blumenthal & Co., Inc., Rocky Mount, N. C.

Robert A. Harris has been elected assistant treasurer of Fieldcrest Mills, Inc., Spray, N. C.

Peter Hart has been named to the newly created position of plant superintendent at Pontiac Weaving Corp., Pawtucket, R. I.

Leon G. Hazebrouck has resigned as superintendent of the Combing Div. of French Worsted Co., Woonsocket, R. I.

Raymond E. Henderson has been named director of manufacturing operations at Chatham Mfg. Co., Elkin, N. C. He succeeds **Raymond W. Harris.**

W. Basil Hill has been named vice president in charge of product development at Mooresville Mills, Mooresville, N. C.

Fred B. Hirsch has been named general manager of Dodgeville Finishing Co., Inc., Attleboro, Mass., succeeding **Frank Diedrich.**

W. T. Jenkins, Jr., has been named assistant plant engineer at Rock Hill Printing & Finishing Co., Rock Hill, S. C.

Fred W. Klein has been appointed assistant mill manager of Karastan Rug Mills, a division of Fieldcrest Mills, Inc., Leaksville, N. C.

Matthew S. Korol has been named superintendent of the Edwards Div. of Bates Mfg. Co., Augusta, Me. He succeeds **Kenneth R. Booth.**

James Lawton has been named a director and vice president of American Velvet Co., Stonington, Conn.

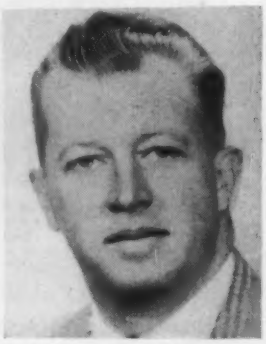
William B. Lewis has been named chief engineer at Bates Mfg. Co., Lewiston, Me. **W. T. Harvey** has been named plant engineer at the Edwards Div., Augusta, Me.

Paul Losick has resigned as a member of the board of Sanson Hosiery Mills, Inc., Allentown, Pa.

Louis G. Maloof has been named manufacturing superintendent at Kanmak Mills, Inc., Kulpmont, Pa.

John C. Martin has been appointed plant manager at Wellman Combing Co., Johnsonville, S. C.

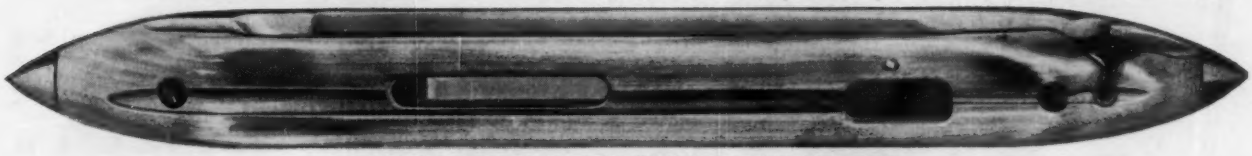
BENJAMIN W. STREIFLER has been named president of Nazareth Mills, Inc., Nazareth, Pa., a wholly owned subsidiary of Julius Kayser & Co.



PAUL H. MEDLING has been named general manager in charge of manufacturing at Sidney Blumenthal & Co., Inc., Rocky Mount, N. C.

You'll be hearing a lot about the amazing **WOOD · N · DURE** PATENTED **SHUTTLE**

Take natural wood, **treat it,** *and you have* **WOOD-N-DURE**



LISTEN TO THESE IMPRESSIVE ADVANTAGES:

It will better withstand **stresses, shocks and blows** • its "hardened" wearing surfaces afford greatly increased resistance to the wear and abrasion of the loom • when it **does** begin to wear, it wears smoothly and evenly • it resists splintering of the edges • it eliminates the necessity for any fiber-cladding • it is more impervious to atmospheric changes • the treatment leaves the center-section relatively soft to afford maximum holding power around the tip • the natural wood is **toughened,** while the resiliency is **increased!**

* A **WOOD-N-DURE** Shuttle will outlast an ordinary shuttle by **2** to **1** or better!

U S BOBBIN & SHUTTLE CO.

For quotations write to nearest address

Manufacturing Plants
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General Sales Office LAWRENCE, MASS.
Southern Division Headquarters: 428 Birney St., GREENVILLE, S. C.
BIRMINGHAM: Young & Van Supply Co.
DALLAS: O. T. Daniel, Textile Supply Co. LOS ANGELES: E. G. Paules, 1762 W. Vernon Ave.

THE SEAL OF QUALITY AND SERVICE — US — SINCE 1857

ELECTRIC STOP MOTIONS

"WESCO" TOPS THE WORLD'S BEST KNITTING MACHINES

FOR UNDERWEAR OUTERWEAR HOSIERY

PRODUCTION WISE-IT'S WESCO

USED ON ALL THESE KNITTING MACHINES:

Bentley	Edmos	Mellor, Bromley	Stibbe
Blackburn	Fidelity	Ordnance Gauge	Supreme
Brinton	Jacquard	Precision Knitters	Tompkins Bros.
Cooper	Lamb	Scott & Williams	Wildman
Crane	Leighton	Stafford & Holt	Wildt

Manufacturers and knitters all over the world buy and specify Wesco. They know from experience Wesco stop motions get the best out of the machines they build and buy.

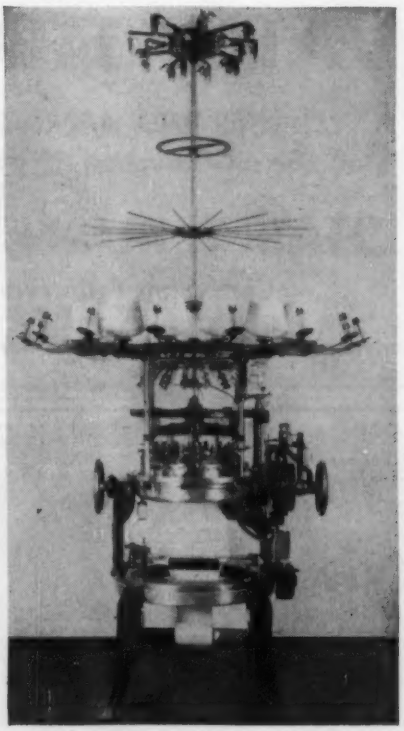
Wesco is the "safety-first" word for Superior Knitting. When you purchase new knitting machine—Specify "Wesco" Electric Stopmotions.

MAKES THE BEST MACHINE BETTER

STOP-MOTION DEVICES CORPORATION

1471-77 Fulton St. Brooklyn 16, N.Y.

Another of a Series of Knitting Machine Builders. Others to follow



STYLE P. B.
WILDMAN KNITTING MACHINE

A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 h.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 618

SUPERIOR COMBUSTION INDUSTRIES
Factory: Emmaus, Pa.
Exec. Offices: Times Bldg, Times Sq., New York N. Y.
SUPERIOR STEAM GENERATORS

VALUATIONS

ENGINEERING APPRAISALS
For All Valuation Purposes

CHAS. T. MAIN, INC.
Consulting Engineers

BOSTON, MASSACHUSETTS CHARLOTTE, NORTH CAROLINA

YOU CAN COUNT ON WAK COUNTERS

- RUGGED
- ACCURATE
- DEPENDABLE

We build single, double and triple pick counters; yardage, rotary, ratchet and special counters.

WAK INDUSTRIES WRITE PHONE WIRE CHARLOTTE, N. C.

NEWS ABOUT MEN *(Continued)*

A. T. Miller has been named overseer of weaving at Litchfield Woolen Mills, Litchfield, Minn.

C. R. Moore has been named manager of the Marion Plant of Burlington Mills Corp., Marion, Va.

Thomas O'Hara has been named overseer of finishing at the Bell Co., Worcester, Mass.

Martin O'Neil has been named overseer of spinning at Chicopee Mfg. Corp., Manchester, N. H. Irving P. Dicey has been promoted to overseer of warp preparation.

George Ramsdell has been named overseer of weaving at Sawyer, Regan Co., Dalton, Mass.

H. A. Reinhardt has been named director of engineering and research at Bigelow-Sanford Carpet Co., Inc., Thompsonville, Conn.

Homer Roberts has been named general manager of Geneva Cotton Mills and Riverview Mills, Inc., both in Geneva, Ala., and Bama Cotton Mills, Enterprise, Ala.

J. R. Royer has been named general manager of Tenn-Rock Hosiery Co. and McMinnville Textiles, Inc., both located in McMinnville, Tenn.

Arthur Shook has been named superintendent of North Star Woolen Co., Lima, Ohio.

John J. Smith and B. H. Bossidy have been elected vice presidents of Chicopee Mfg. Corp. and Chicopee Mills, Inc., respectively, Athens, Ga.

Thomas C. Smotherman has been promoted to vice president and sales manager at American & Efird Mills, Inc., Mount Holly, N. C.

J. E. Taylor has been named vice president in charge of manufacturing at Sidney Blumenthal & Co., Inc., Rocky Mount, N. C.

William W. Thomas has been named treasurer and principal administrative officer at Stedman Mfg. Co., Asheboro, N. C. Robert D. Crowley has been named plant manager and C. C. Steed, superintendent.

Hugh Wofford has been named general manager of Williamston Cotton Mills, Williamston, N. C.

OBITUARY

William B. Brehm, 83, secretary-treasurer and a director of Reading Dyeing Co., Reading, Pa.

Frank H. Cooper, 58, assistant superintendent of Fulton Bag & Cotton Mills, Atlanta, Ga.

Napoleon B. Davis, 78, retired superintendent of the Armstrong Mill of Gastonia Combed Yarn Corp., Gastonia, N. C.

Leon Formell, 67, former general foreman of Rugby Knitting Mills, Buffalo, N. Y.

A. Stanley Helm, 73, retired assistant manager of Cranston Print Works, Cranston, R. I.

Reuben W. Jennings, 80, former superintendent of West Point Mfg. Co., Lanett, Ga.

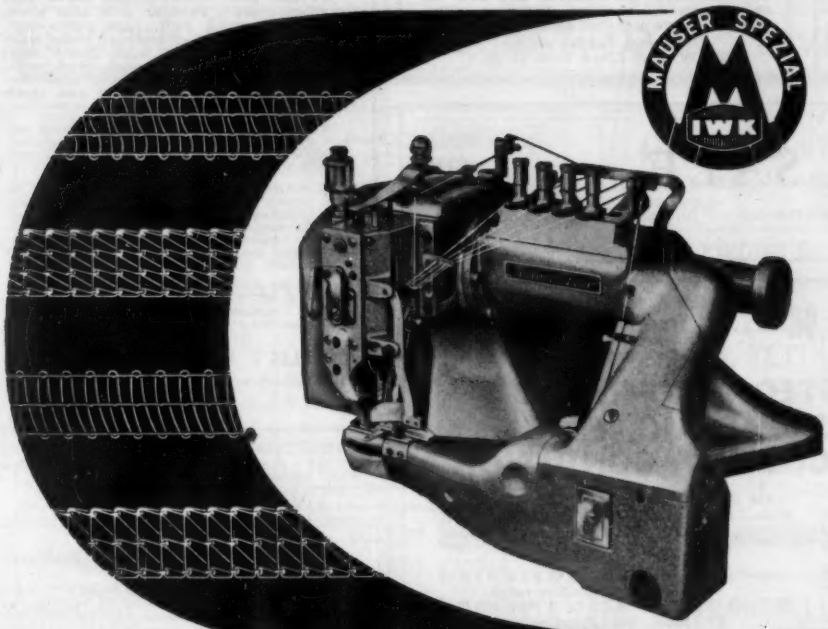
Archibald Meikle, retired superintendent of F. W. Poe Mfg. Co., Greenville, N. C.

Roger Preston, 54, director of Plymouth Cordage Co., Plymouth, Mass.

Charles S. Rader, 81, retired secretary-treasurer of Standard Knitting Mills, Knoxville, Tenn.

Gertrude H. Ward, assistant treasurer of West Boylston Mfg. Co., Montgomery, Ala.

MAUSER SPECIAL Feed-off-the-arm Flat-seam Machine MAUSER LOCK



with trimmer and differential feed dog producing an extremely elastic 4-needle-covering seam with one lay in thread for the trimming, sewing together and hemming of all kinds of hosiery as well as elastic material.

- Number of needles 3 and 4
- Breadth of seam 7/32" and 9/32"
- Number of stitches per minute up to 2800 and 3400

The automatic lubrication system and the oil circulation controls greatly facilitate the service and maintenance of the machine.

Illustrated leaflets will be supplied on request.

INDUSTRIE-WERKE KARLSRUHE Aktiengesellschaft · KARLSRUHE · (GERMANY)

CALDWELL TANKS—
First Choice of the Textile Industry!

Caldwell offers the industry a complete tank service, including solid Stainless and Stainless-lined wood tanks and tubs, of any shape or size.

If you're thinking of installing or replacing a tank, let our 60 years' experience in building high-grade tanks serve you. *Send for our catalog, today!*

W. E. CALDWELL CO., Inc.
2060 Brook St., Louisville, Ky.

Caldwell TANKS AND TOWERS

ROME SOAP MFG. CO.

MANUFACTURERS OF
Textile, Laundry
and
Special Soaps

WRITE US FOR SAMPLES AND QUOTATIONS

ROME, N. Y.

ALL STEEL ECONOMY BALING PRESSES
ALL SIZES FOR ALL PURPOSES
LARGEST LINE BUILT IN U.S.A.

ECONOMY BALER CO., DEPT. J ANN ARBOR, MICH., U.S.A.

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Terrell Machine Co., 1200 No. Church St., Charlotte, N. C.
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TECHNICIAN, KNITTER

Mechanic, machinist, highly trained, experienced, inventive ability, wishes to relocate, machine shop or knitting mill, anywhere from North to South America.

PW-5227, Textile World
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TEXTILE ENGINEER WANTED

Textile school graduate as Assistant to Superintendent for research and new developments in southern throwing plant. Need not have practical experience. Write

P-4958, Textile World
330 W. 42 St., New York 36, N. Y.

FOR SALE

(Additional For Sale Advertisements on following pages)

McDOWELL ASSOCIATES, Inc.
41 East 42 Street
New York 17, New York
Tel. Murray Hill 2-7417

OR

JOHN J. McCLOSKEY, Inc.
West Knight Ave.
Collingswood, New Jersey
Tel. Collingswood 5-0305-6

SURPLUS WORSTED MACHINERY BOTANY MILLS, PASSAIC, N. J. AS OPERATED—EXCELLENT CONDITION

ITEM NO.
H1— 1 Gruen DRAWING FRAME, 6 Head
H2— 8 Warner & Swasey Dual PIN DRAFTERS, Ball to Can 1949/50 Units.
H3—15 Warner & Swasey Dual PIN DRAFTERS, Can to Can, 1949/50 Units.
H4—15 Warner & Swasey Quad PIN DRAFTERS, Can to Can, 1949/50 Units.
H5— 4 Platt Bros. SLUBBING FRAMES, 16/18 Units.
H6— 1 Gruen SLUBBING FRAME, 13 Head.
H7— 1 Koechlin SLUBBING FRAME, 21 Head
H8— 4 Platt Bros. First Intermediate ROVING FRAMES, 25 Head Units.
H9— 2 Platt Bros. Second Intermediate ROVING FRAMES, 25 Head Units.
H10—12 Platt Bros. Third Intermediate ROVING FRAMES, 25 Head Units.
H11—19 Platt Bros. ROVING FINISHERS, 25 Head Units.
H12—10 Whitin Model FW3 RING SPINNING FRAMES, (French), 200 Spindles each, 3" Ring, 4½" Gauge, 1949/50 Model.

ITEM NO.
H13—12 Whitin Model F2 RING SPINNING FRAMES, 204 Spindles each, long draft, 2¼" Ring, 4" Gauge, 1947 Model.
H14—12 Hartmann RING SPINNING FRAMES, 360 Spindles each.
H15—10 Hartmann RING SPINNING FRAMES, 440 Spindles each.
H16— 6 Foster Model #25 YARN TWISTERS, 80 Spindles each.
H17—12 Lindsay Hyde YARN REELS, 50 End Each.
H18— 3 Hartmann Model B RING TWISTERS, 360 Spdls. ea., 87 m/m gauge.
H19—13 Hartmann Model A TWISTERS, 410 Spdles. ea., 87 m/m gauge.
H20—11 Fales & Jenks Model E RING TWISTERS, 200 Spdls. ea., 3" Ring, 4" Ga.
H21— 2 Foster Model #102B CONE WINDERS, 120 Spindles each, Sr. #1281K and #1282K.
H22— 2 Universal #90 FILLING WINDERS, 20 Spindles each.
H23—192 C&K AUTOMATIC W2 LOOMS, 84", Fully equipped, Motorized, etc.

ALL MACHINERY OFFERED SUBJECT TO PRIOR SALE

SEARCHLIGHT Equipment Spotting Service

This service is aimed at helping you, the reader of TEXTILE WORLD, to locate used and surplus new textile machinery and equipment not currently advertised. (This service is for user-buyers only.) No charge or obligation.

First, read the dealer ads on the following pages. A 5-minute study may locate the equipment now.

Second, send in the specifications of the equipment wanted on the coupon below, or on your own company letterhead, to

Searchlight Equipment Spotting Service
c/o Textile World, 330 W. 42nd St., N. Y. 36, N. Y.

Your requirements will be brought promptly to the attention of the used equipment dealers advertising in this issue. You will receive replies directly from them.

Searchlight Equipment Spotting Service
c/o Textile World, 330 W. 42nd St., N. Y. 36, N. Y.

Please help us locate the following used equipment:

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NAME ..... TITLE .....

COMPANY .....

STREET .....

CITY..... ZONE..... STATE.....2-55

POSITIONS OPEN

We can place—**MANAGER** rayon mill (foreign); mgr. sweater mill also prod. mgr.; supt. wstd. knit. yarn mill; supt. dye. orlon sweaters (foreign); plant mgr. covered rubber yarns; mgr. plant mfg. finishes and detergents; asst. prod. mgr. sweaters (South); wstd. men's wear designers; asst. supt. cot. yarn and cloth mill.

OVERSEERS for lace dye. and finish.; warp. and slash.; wstd. spinn. and draw. (Bradford system). SECOND HANDS win. card.; section hands French combing and gill boxes.

MECHANICAL ENGINEERS and draftsmen for plant layouts; quality control men; silk throwster; cost accountant with textile exp.; color weigher; salesman textile specialties; mechanic for Whitin twisters; foreman-fixers hos. knit. machines, also for loopers; jacquard and box loom fixers; knit goods napper; dresser tender.

If you are available for a good paying position in textiles, it will pay you to have your application in our files. Negotiations are confidential. No fee to be paid unless you accept employment through us.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington St. Boston 8, Mass.
Over 55 Years in Business. Phone: Liberty 2-6547

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (36)
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SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

(Additional Position Vacant Advertising on page 260)

TEXTILE ENGINEER opportunity for young man with academic training in textile engineering. Position in research laboratory. Work on manufacturing and processing of synthetic fiber. Requires imagination and mechanical ingenuity. Write to Personnel Department, The Dow Chemical Company, Pittsburg, California.

A LEADING, old established West-German Textile finishing machine concern needs qualified representatives with established following among dye and finishing houses for the South—Canada—Midwest and Pacific areas. This firm has an American branch handling all promotion and import details. P-5155, Textile World.

GENERAL MANAGER wanted by large southern textile corporation to assume charge of manufacturing operations. Position requires wide experience in textile mill management. Salary above $20,000 with opportunity for future advancement. In reply give age, marital status, education and complete resume of experience. P-5156, Textile World.

UPHOLSTERY PILE factory supt. one to take complete charge. Must have had previous experience. P-5198, Textile World.

POSITIONS WANTED

THROWING MILL Supt. or manager. Twenty-two years experience. Quality throwing rayon, nylon, dacron for hosiery tricot, lace and specialty work. Thorough knowledge quality control, cost and incentives. Labor relations and references excellent. Willing to go anywhere. PW-5286, Textile World.

CHEMIST-DYER, 8 years experience, mill and chemical man. PW-4728, Textile World.

QUALITY CONTROL New York or Mill. 40 years experience, silk rayon and cotton manufacturing and finishing. PW-4848, Textile World.

TEXTILE SUPERVISOR, 40 years experience, cotton and rayon preparation. Thorough knowledge of all modern methods. Excellent references. Willing to relocate. PW-5247, Textile World.

TEXTILE SCHOOL graduate, mill experience, ready for position of asst. or supt. of textile plant. Presently employed with no immediate opening available. Southern States preferred. Complete resume of experienc and employment upon request. PW-5010, Textile World.

SALESMANAGER: Successful sales record resulting from contact with engineering, research and executive personnel. Sales, administrative and manufacturing experience in textile industry. Textile engineering graduate. PW-5148, Textile World.

TECHNICIAN — THOROUGHLY experienced designer and mill man in woolens and worsteds looking for suitable connection. Twenty years experience in European and South American mills. References available. Remuneration unimportant. PW-5253, Textile World.

TEXTILE GRADUATE, 20 years experience in quality control. Able to set up and adminster complete quality control program. Presently employed, but looking for new opportunity in South. PW-5256, Textile World.

SAVE ON ALL YOUR MACHINERY NEEDS

SPINNING & BROAD GOODS WEAVING DIVISION

3—ATWOOD 5-B RING TWISTERS
10 oz.—6" spacing for 6" Traverse spool—3¼" Eadie rings—double 2" feed rolls —2 machines 112 spindles each, other 100.

3—Yarn Conditioning BOXES
1—Late Type H & W Yarn Conditioning Box
2—Lydon Yarn Conditioning Boxes

4—ATWOOD UTILITY D.D. TWISTERS
½ lb. package—2 motors—4½" spindle spacing—240 spindles each

5—ATWOOD MONARCH D.D. TWISTERS
½ lb. package—1 motor—4½" spindle spacing—240 spindles each

2—U. S. TEXTILE ACME D.D. TWISTERS
½ lb. package—2 motors—240 spindles—4½" spindle spacing

1—U. S. TEXTILE D.D. TWISTER
1 lb.—240 spindles—2 motors

24—UNIVERSAL #50 NYLON CONING MACHINES
Complete with pineapple attachments, L-Drive, gear gain.

27—UNIVERSAL #250 SIZING MACHINES
15—1951 Models
12—1948 Models

1—FLETCHER WHIRLPOOL EXTRACTOR
30" Stainless Steel — 1949 Model.

1—SIPP EASTWOOD 101" WARPER
Model DT. Heavy Duty

16—MODEL 110 ATWOOD TWISTERS
1947 Model—232 spindles each—6" spacing

A Variety of C & K and DRAPER BROAD GOOD AUTOMATIC LOOMS
Please send us your inquiries.
Slashers—Warpers—Automatic Quilling—Quills—Harness Frames—Drop wires—Etc.

1—MODEL 60-6F UNIVERSAL CONER
220 spindles

NARROW FABRIC DIVISION

4—FLETCHER HEAVY DUTY LOOMS
Large package. 16 space batten. Heavy duty roller bearing cam motions. 16 hook side jacks. Motorized.

12—STANDARD FLETCHER 15'8" LOOMS
Heavy duty crank shafts. Cam motions. Motorized.

2—FLETCHER 24 SPACE WEBBING LOOMS
Single deck. Floor type cam motions. Motorized.

6—RECONDITIONED FLETCHER 15'8" LOOMS
Heavy duty roller bearing cam motions, crank shafts. Motorized. Like-new condition.

6—FLETCHER 15'8" LOOMS
Heavy duty roller bearing cam motions, crank shafts. Motorized.

2—REBUILT FLETCHER SAMPLE LOOMS

4—C & K HEAVY DUTY WEBBING LOOMS
8 space large package floor-type cam motions.

1 SCOTT TESTER
Model Q-3.
0-2000 lbs.

2—RAMSEY HYDRO WARPERS

100— MILTON BEAMS
20" diameter heads.
82½" traverse.

Complete Stock Room of Parts and Battens For All Type Fletcher Looms.

All items subject to prior sale — *WRITE, PHONE OR WIRE FOR FURTHER INFORMATION* — This is only a partial listing

Wm. Rabinowitz & Sons
TEXTILE MACHINERY, BOBBINS & SUPPLIES
214 - 222 Hamilton Street Phone HEmlock 3-7497 3-7498 Allentown, Pa.

WE ARE PLEASED TO ANNOUNCE THE

EXCLUSIVE LIQUIDATION

OF THE BLEACHING & FINISHING EQUIPMENT OF THE

INDIANAPOLIS BLEACHERY CO.

900 WEST WABASH ST. **INDIANAPOLIS, INDIANA**

LISTED HERE ARE A FEW SELECTED ITEMS

3—60' x 60" tenter frames, with all new attachments. Enclosed in 40' gas fired housing, 25–60" x 23" copper dry cans, B.B., unit motor driven. Complete with M.G. set.

45—S. S. Dry Cans, 60" x 23", 35# Pressure, B.B., Complete with M.G. Set.
50—Copper Dry Cans, 72" x 23", B.B., Complete with M.G. Set.
60—Copper Dry Cans, 100" x 23", B.B., Complete with M.G. Set.
1—2 Roll 15 Ton Padder, 60" wide. Complete, with M.G. Set.

COMPLETE BLEACHERY EQUIPMENT consisting of double strand acid saturators; "J" boxes; washers, kiers with heaters, pumps; kier pilers; etc.

10—5 Roll Calenders, 44" to 66" wide.
4—Back Filling Machines, 45" to 65", Continuous.
Complete Water Treatment System (Like New).
Also, numerous other items constituting a complete bleaching and finishing plant. Can be inspected on location. Representative on premises at all times.

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STRICKLER remanufactured PACKAGE BOILERS

Give You NEW-BOILER PERFORMANCE . . . at a USED BOILER PRICE

Here's Why— You Can Be Sure Of Strickler Rebuilt Boilers because every Boiler is torn down to the bare shell, hydrostatically tested and painstakingly rebuilt to original specifications. That is why the cream of American Industry are repeat customers—Knowing from experience the quality that is built into every fully guaranteed Strickler boiler.

STRICKLER converts any of the above units to the type of fuel most convenient to you.

WE CAN SOLVE YOUR BOILER PROBLEMS — TELL US YOUR NEEDS

OVER 70 BOILERS AVAILABLE FOR IMMEDIATE INSTALLATION

FIRE TUBE

Reference Number	Make	Quan.	Steam Capacity	Working Pressure	Present Fuel
6	Cleaver Brooks	1	17,000#	200 PSI	Heavy Oil
627	Cleaver Brooks	1	17,000#	150 PSI	Heavy Oil
613*	Cleaver Brooks	1	17,000#	200 PSI	Heavy Oil
310*	Cyclotherm	2	17,000#	200 PSI	Gas-Light Oil
637	Cleaver Brooks	1	15,500#	150 PSI	Heavy Oil
635	Cleaver Brooks	1	13,800#	150 PSI	Heavy Oil
631	Cleaver Brooks	1	12,000#	150 PSI	Heavy Oil
758	Cyclotherm	1	10,500#	200 PSI	Heavy Oil
283	Preferred	2	10,500#	150 PSI	Heavy Oil
638	Cleaver Brooks	1	8,680#	150 PSI	Heavy Oil
462	Ames	1	6,900#	100 PSI	Heavy Oil
628	Cleaver Brooks	1	5,200#	150 PSI	Heavy Oil
612	Cleaver Brooks	1	4,300#	125 PSI	Heavy Oil
638	Cleaver Brooks	1	4,300#	150 PSI	No. 5 Oil
461*	Edgemoor	1	3,450#	125 PSI	Heavy Oil

Reference Number	Make	Quan.	Steam Capacity	Working Pressure	Present Fuel
753	Cyclotherm	2	2,760#	100 PSI	Light Oil
752	Cyclotherm	1	2,680#	125 PSI	Light Oil
488*	Edgemoor	1	2,680#	125 PSI	Heavy Oil
639	Cleaver Brooks	2	2,070#	85 PSI	Light Oil
640	Cleaver Brooks	2	2,070#	85 PSI	Gas
641	Cleaver Brooks	1	2,070#	85 PSI	No. 5 Oil
636	Cleaver Brooks	1	1,725#	100 PSI	Light Oil

WATER TUBE

Reference Number	Make	Quan.	Steam Capacity	Working Pressure	Present Fuel
35-7	Foster Wheeler	2	45,000#	450 PSI	Heavy Oil
35-30	Foster Wheeler	6	40,000#	300 PSI	Heavy Oil
35-9	Babcock & Wilcox	5	15,000#	250 PSI	Heavy Oil
374	Titusville	1	12,000#	200 PSI	Heavy Oil
131*	Vapor Clarkson	2	2,070#	300 PSI	Light Oil

*DENOTES—NEW-UNUSED

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ANNOUNCEMENT

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HAS PURCHASED THE FINE COMBED COTTON WEAVING MILL OF

CLUETT, PEABODY & CO., INC,

NORTH GROSVENOR DALE, CONN.

FOR SALE

MACHINERY & EQUIPMENT:
MODERN SPINNING UNIT—76,000 SPINDLES, 1000 LOOMS

FOR LEASE:

REAL ESTATE:
400,000 SQ. FT. MILL BRICK BUILDINGS, HEAVY FLOOR LOAD, HIGH CEILINGS, HIGH PRESSURE BOILERS, PROCESS WATER, IDEAL FOR SMALL OPERATING UNITS, EXCELLENT EXPERIENCED LABOR POOL.

Main Items of Equipment Include:

Opening—2 lines Saco Lowell Opening and Cleaning quipment
303—Saco Lowell, Saco Pettee and H&B 40" Cotton Cards
200—Del. Saco Lowell Controlled Draft Drawing
36—Saco Lowell Double Head Combers, 12 heads
2,880—Spdls. Saco Lowell FS2 Roving Frames, 10x5
76,000—Spdls. Whitin and H&B Spinning Frames
1,100—Spdls. Whitin BB Twisters, 4½" gauge, tape
6—Abbott Quillers, 130 spdls. each, w/hoist and generator
1—Barber Colman Quiller, Model EBW, 30 spdls.
3—Bachman-Uxbridge Gentle Air Slashers, complete w/controls
2—Economy Large Size Baling Presses

Large and Modern Laboratory—completely set up.

Mill Supplies Include:

Roving Cans, Bobbins, Quills, Air Compressors, Pumps, Motors, Mill Trucks, Blowers, Complete Machine Shop, Carpentry Shop, Office Furniture and Equipment, Air Conditioning and Humidification Equipment.

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Cotton & Synthetic Spinning and Weaving Mill—53,000 Spindles, 1700 Looms.

Real Estate: For Sale or Lease
450,000 sq. ft. mill brick buildings

Main Items Include:—
2 Lines—H&B Opening & Blending—1946
4—H&B Single Process Pickers, 40"—1946
43—Saco Lowell and H&B Cards, 40", 12" coiler
6—H&B Hi-Draft Slubbers, 10x5, 104 spdls.
56,000—Spdls. Long Draft Spinning Frames, 3" ga. & 2-¾" ga.
2—Barber Colman Hi-Speed Warpers, 54-¼", w/creels
1—Barber Colman Spooler, Model KK, Type C, 306 spdls.
2—Cocker Hi-Speed Warpers, 54-¼", w/creels
1—Abbott Quiller, 120 spdls., hoist & generator—1953
48—Draper XD Looms, 54" reed, dobby, Diehl motor 1951
190—Draper XD Looms, 54" reed, dobby, ind. motor—1947-48
96—Draper XD Looms, 54" reed, dobby, ind. motor—1942
240—Draper XK Looms, 50" reed, dobby, ind. motor—1940
396—Crompton & Knowles C6 Looms, 52" reed, 4x1, dobby, motor—1942
152—Crompton & Knowles C6 Looms, 56" & 66" reed, 4x1, dobby, motor—1946
4—Saco Lowell Slashers, 2 cyl., 57", Brown controls
2—Johnson Slashers, 7 drums, 66" headway—1948
12—Curtis & Marble Clip Spot Shearers, 57-½" wide
Mill Supplies & Parts, Complete Machine Shop, Carpentry Shop, Office Equipment.

ALSO: Presently Liquidating Balance of A. D. JULLIARD & CO., Woolen Division—Stottville, N. Y.

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REBUILT and LATE MODEL.

2—D&F 3 Cyl. IRON WOOL CARDS 60x 48" Dia. Tape Condensers.
1—A&G CLOTH CONDITIONER 84", Serial #1643.
3—P&W & Gessner SEMI-DECATURS 72" x60", 1949 Model, 72"x36" Rebuilt.
38—W&S PIN DRAFTERS, Duals and Quads, 1949/50 Model.
10—R&L & R. Hunt STAINLESS STEEL DYE BECKS 18"—42"—70" & 20' units, Set Up.
1—Kenyon PIN TENTER DRYER 12 pass, 66" Air Fin Heaters, Set Up.
1—Gessner Vacuum EXTRACTOR 72", Rebuilt.
1—Fletcher EXTRACTOR 20" S.S. Basket, 1945 Model.
2—Whitin INTERMEDIATE 48" BROAD-BAND FEEDS, 1948 Model.
4—C&K W3 Automatic LOOMS 76" with Multipliers, 1947 Model.
12—C&K W3 Automatic LOOMS 82", 1937 Model.
200—C&K W2 Automatic LOOMS 84" 1935 Model.
1—P&W NAPPER 80" D.A. 24 roll, B.B., 1939 Model.
2—D&F KNIT-GOODS NAPPERS 20 roll 80", Rebuilt.
1—S&L Combination OPENER & FINISHER PICKER Unit 40", 1932 Model.
1—Butterworth 256 PACKAGE S.S. Dyeing Machine, 1939 Model.
1—C&M SHREDDER PICKER 12 bar 48", Rebuilt.
1—Gessner Hi-Production STEAM PRESS 72"x20" Dia. cyl, Hydrolizer etc., 1951 Model.
1—P&W Davidson HI-SPEED SHEAR 3 Blade, B.B., 1939 Model.
1—C&M SINGER 3 Brass Burners 84", Rebuilt.
1—Terrell Model L Automatic BOBBIN STRIPPER, 1947 Model.
10—Whitin SPINNING FRAMES FW3 (French) 200 Spindle units, 4-½" Gauge, 1949/50 Model.
12—Whitin SPINNING FRAMES F2—204 Spindle units, 4" Gauge, 1947 Model.
1—Van Vlan CLIP TENTER FRAME 20' x 57", closed gearing. Rebuilt.
1—McCreery PIN TENTER FRAME 25' x 78", Rebuilt.
1—B-C PORTABLE WARP TYING Machine, Model K, B&W Knotters.
1—Schweiter M5 WINDER 21 Spindles up to 10-⅛" Bobbin, Rebuilt.
2—Foster #102B CONE WINDERS 120 Spindles each, Serial #1281K/2K.
1—Hunter CONTINUOUS CLOTH SHRINKING RANGE, Minimum of Tension.

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(Additional Position Vacant Advertising on page 256)

SUPERINTENDENT

For South American mill carding, spinning, and weaving synthetics.

$12.000 salary and exceptional opportunity for right man.

No. 1 requirement is thorough knowledge of C&K and Draper looms.

Applicant should have broad knowledge of rayon and other synthetics, reasonable knowledge of spinning, and good knowledge of slashing and quilling.

Two-year contract, transportation for applicant and family. Good climate. Reasonable living expenses.

P-5031, Textile World
330 W. 42 St., New York 36, N. Y.

FOR SALE—FINISHING MACHINERY

27—50" S/S VV Dye Jiggs
1—50" Morrison 3 Roll Calender
1—50" VV 3 Roll Calender
1—68" face Weisback Spiral Breaker
1—Textile 20'x90" (closed gears) Tenter Frame
2—66" face Birch Bros. Scutchers
1—Detacking Machine Birch Bros.
1—S/S Cook DeTwister
3—Curtiss & Marble Doublers & Tacking Machines
1—Gas Fired Curing Oven 60" face.

Also Available: Dry Cans, Quetchers, Reeves Drives, Spare Calender Bowls, Motors, etc. *Write for Catalogue.*

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With background in textile manufacturing processes

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Develop machines and equipment for ribbon manufacturing. This calls for experience and practical skill in machine designing, knowledge of textile materials and supplies, dyes and sizings.

Inventive ability a prerequisite.

Must desire to locate in Middle West.

Give full details on work experience, education, age and personal history in first letter. Please enclose a recent snapshot.

P-5275, Textile World
520 N. Michigan Ave., Chicago 11, Ill.

FOR SALE!

2—Obermaier 300 lb. Stainless Steel Package Dyers
2—Obermaier Pressure Type Extractors
12—Luther and Morrison Thread Glazers
1—Progressive Thread Labeling Machine

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SPECIALIZING IN BLEACHING, DYEING AND FINISHING MACHINERY SINCE 1920

PLUSH FINISHER

For Pile Fabrics
Complete charge

P-5029, Textile World
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WE SPECIALIZE IN FINISHING MACHINERY

THESE ITEMS IN STOCK FOR IMMEDIATE DELIVERY

1—15 Ton Hydraulic 72"—"Hunter" B. B. Padder New Rubber Rolls, 19" Diameter.
2—3 Roll—50"x18"—Ton Pneumatic Padders with S.S. Troughs.
1—90" W. & J. Tenter Frame 50" wide, with Housing, Ducts, etc. all complete, also—30, 40 and 50' Tenters all widths.
2—8' and 10-12' "Redney Hunt"—"True-Shade" all Stainless Steel Dye Becks, almost new.
1—45" Habold, 80 Ton Schreiner Calender all complete with Pump and Accumulator.
6—72" Butterworth S. S. Dye Jiggs.
1—65" "Perkins" (Simpson with cut-off) Winder.
1—Hydraulic Copper Print Roll Jack for 72" Widths.

Also, Dry Cans of all sizes, Spare Pad Rolls and Calender Rolls, St. St. 150 Gals. heavy gauge mixing tanks.

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Throughly exper. man who is capable of dyeing & finishing nylon tulle, nylon nets, and all types of laces. Plant located 50 miles from N.Y.C.

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Must be thoroughly experienced with Tenter Frames, Guiders, Winders, etc. Retired or part time Designer desired.

P-5216, Textile World
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NOW LIQUIDATING
MACHINERY — EQUIPMENT — SUPPLIES
MILLS A (Woolen) and B (Plush)
GOODALL-SANFORD, INC., SANFORD, MAINE
WOOLEN — WORSTED — PLUSH — AUTO CARPETING — UPHOLSTERY

NOTE: ***Additional machinery including much Plush and Auto Carpet Finishing Machinery (for sale) is still running, as this copy is prepared, and not listed below; but will be available by the time this announcement appears. Therefore, please send inquiries for items not seen below, and we will advise immediately if on hand with full detail and quotations.***

GILL BOXES & DRAW BOXES
All Individually Motor Driven

11—S-L and P-S 7/16" p. Intersecting Sgl Hd Dble Can Gills. M.D.
11—S-L and P-S 7/16" p. Intersecting 2-spdl Gills 14x9. M.D.
1—P-S & Stells 7/16" p. Intersecting Sgl Hd Dble Can Gill, pr 1948. M.D.
8—P-S 4-spdl x 12-⅜" p. 14x9 Draw Boxes. M.D.
8—S-L 8-spdl x 10¼" p. 14x7 Draw Boxes. M.D.
8—S-L 12-spdl x 9¼" p. 12x6 Draw Boxes. M.D.
14—S-L 12-spdl x 7¼" p. 10x5 Draw Boxes. M.D.
3—LMS & H&S 6-spdl 14x9 Draw Boxes. M.D.
6—S-L 8-spdl x 9¼" p. 10x6 Draw Boxes. M.D.
Lot —SPOOLS, 14x9, 14x7, 12x6, 10x6. Gill Box Cans, parts, tailers, etc.

FLYER REDUCERS

2—P-S Stells (1949) 36-spdl x 7¼" p. 10x5 Flyer Reducers. 5-HP M.D.
6—P-S & LMS 24 x 7¼" p. 10x5 Flyer Reducers. 3-HP M.D.
Lot —10x5 Spools, and parts.

RING ROVERS

9—P-S, H&S, & LMS 30-spdl x 6½" p. 4x8. Belt Dr.
21—P-S & S-L 32-spdl x 5½" p. 4x8. Belt Dr.
1—H&S 30-spdl x 6½" p. 4x1. 5-HP M.D.
14—S-L 30-spdl x 6" p. 4x8. 5-HP M.D.
2—LMS 30-spdl x 5½" p. 4x8. 5-HP M.D.
6—S-L 32-spdl x 5½" p. 4x8. 5-HP M.D.
31—S-L & LMS 30-spdl x 5½" p. 4x7. 5-HP M.D.
12—S-L 32-spdl x 5½" p. 4x7. 5-HP M.D.
Lot —4x7 and 4x8 Ring Roving Spools Parts, etc.

WORSTED SPINNING

105—P-S & S-L 160-spdl x 3½" p. Cap Spg. Frames. 7¼ x 2¼ Bell Caps, and 7½ x 2 Conical Caps. West 7½-HP 440V Mtr Drives.
36—S-L 160-spdl x 3½" p. x 2-¾"/Herr Ring Spg. Frames. Whitin Compensating Ring Rail Changeover w/Rabbeth spdls. GE & West. 7½-HP 440V M.D.
Lot —Spg. Bobbins—parts, etc.

TWISTERS

36—Collins 200-spdl x 4¼" p. x 3" Ring x 8" Tr. Twisters. 2" Sgl Roll. Traps. Knee Brakes. Ind. West 10-HP 440V (mostly 220/440) M.D.
12—P-S 188-spdl x 4" p. x 2-¾" Ring x 8" Tr. Trap Twisters (Collins Ring Changeover). West 7½-HP 440V M.D.
Lot —Bobbins 8" Traverse for above, parts, etc.

WINDING—ALL TYPES

2—Foster 100-spdl x 7" Tr. Mdl 102 Wood Tube Winders, Ser 2671K, 2672K. GE 220/440V M.D.
7—Foster 60-spdl x 6" Tr. Mdl 101 Wood Tube Winders. GE 5-HP 440V M.D.
4—Abbott Mdl 65 Automatic 100-spdl x 6" Tr. Wood Tube Winders. Bobbin Hoppers. Knotters, etc. GE 5-HP 220/440V M.D. Ser #1393, 1368A, 1369, 1392B.
Lot —Wood tubes for above, parts, etc.
1—Whitin 4-spdl Schweiter Automatic Filling Winder, M.D. yr 1948.
1—Whitin Mdl A Automatic Bobbin Loader with attachments for 75-spdls of Schweiter Winding, yr 1953.

RAW STOCK DYEING

1—R&L 500# S.S. Pressure Type Kettle, Ser #1835. GE 3-HP 220/440V M.D.
1—R&L 100# S.S. Pressure Type Kettle, Ser #1836. GE 3-HP 220/440V M.D.
1—R&L Spare S.S. Rack for 500# Kettle.

PIECE DYEING

Every Kettle is FULLY ENCLOSED, STAINLESS STEEL. Foxboro Temperature Controls. Motor drives 440V. Hand Set Timers with signal lights:
1—J. Hunter 7' x 7'-6" x 5', yr 1939.
6—R&L 7' x 8' x 5', yr 1941.
1—R. Hunt Trushade 7' x 8' x 5', Ser #6207, yr 1940.
4—R&L 11' x 8' x 5', yr 1942.
5—J. Hunter 11' x 7'-6" x 5', yr 1945.
2—J. Hunter 70" x 42" x 40" (SMO 316) 1947-8.

LOOMS

109—C&K 82" Mdl W-3 Non Convertible 4x1 Box Automatic Looms. Fully equipped including stands for 2 or 3-Beam work. 440V M.D. L/O #16,157 to 16,601.
2—C&K 82" Mdl W-3A Non Convertible 4x1 Box Auto Looms. Fully equipped including stands for 3-Beam work. L/O #17,504.
24—Double 54" Plush Looms. 18 Harness Hd Motions plus 2 Cams. 66½"-67" Reedspace. Beams, Harnesses, 3-HP M.D., and also spare parts. Now set to run at 110 picks/min.
40—Double 54" Plush Cam Looms to similar specifications. Now set to run at 115 picks/min.
100M—Enameled 8-¾" x 3-Ring brass bushed Auto Loom Bobbins.
16—C&K 82" Veribest 4x1 Box Automatic Woolen Looms. 10-⅛" bobbin. L/O #12,748. 440V M.D.
16—C&K 82" x 25-Harness Automatic 4x2 Box Woolen Looms, 10-⅛" bobbin. 440V M.D.

SLASHING—WARPING

1—Slasher Unit with Andrews & Goodrich Hot Air Slasher Dryer #1254. Size Box. Controls. S.S. Size Kettle, Pump, etc.
1—S-L 3-Can Slasher 60" wide (7', 5', 5' dia.)
1—Cocker Dry Slasher 88" Rolls. Take up to 96" Beam. Yr 1951.
2—Tolhurst 48" Centrifugal Extractors. 7½-HP 440V M.D.
1—Cocker Hi-speed Spindle Drive Warper w/Mag Creel.

CHAIN WARP EQUIPMENT

1—Butterworth 5-Bowl Chain Dye Mch (4-Iron & 1-S.S.) 8 Ball.
2—Long Chain Beamers.
1—Set Butterworth 27 Dry Cans 142 x 23. Vertical Type.
8—Whitin 378-spdl Quillers for Dble Wire Plush Looms.
3—Whitin 378-spdl Quillers for Mdl W-3 Looms. 8-¾" Bobbin.

BOBBIN STRIPPERS

1—Terrell Mdl L Type A3 Bobbin Stripper, Ser #L930, with Loader.
2—Terrell (NEW) Mdl K Bobbin Strippers—Never used.

BACKWASHER

1—Sargent 3-Bowl 29" Backwasher, 1951.

FINISHING

1—P&W 5-Blade x 66½" Tiger.
1—C&M 6-Belt Cross Brushing Mch.
1—C&M 65" Roll Brusher for Plush.
1—Gessner Full Decater Unit.
1—P&S 12-Pass Tenter Dryer.
2—Phila Mch Co. 40' x 12-Pass Tenter Dryers.
2—Textile Fin Co. 110' x 65" Pin Tenter Frames.
1—J. Hunter 78" Mdl G Padder, 1951.

WOOLEN MACHINERY

3—C. S. Dodge & Butterworth Am Std Rag Pickers.
1—D&F 48" x 12-Bar Mixing Picker.
1—D&F Sample Card on Stand. M.D.
1—D&F 3-cyl 60x60 Iron Woolen Card. Harwood Mdl B Hopper Feed. Peralta. D&F 4-bank D. A. Tape Condenser, 96 ends. Mtr. Dr.
1—D&F 3-cyl Iron Woolen Card to similar specifications except 1st Breaker 60x54" dia. Dble Fin 60x60.
500—Lestershire Aluminum Card Spools 47½ x 8.
1—Dresser Spooler (Warp Mchy Co.) 48" Mdl NL x 48-end, with Reeves Control Drive. Magazine Creel.
3—D&F Sgl Comp. Dresser Spoolers.
4—D&F 82 & 92" Pin Dresser Reel Units.
1—R-H Fulling Mill, Type SP2M, Serial #3775. 10" Wood rolls. M.D.
1—R&L Continuous Cloth Rope Washer, Ser #2053 (shipped Dec. 1949). 4-Bowls Washing, 6-Bowls Reverse Rinse, 1-Bowl Neutralizing. Pumps, Motors, Controls, etc.
1—R&L 84" x 18" Set Pneumatic Rubber Cloth Squeeze Rolls, Ser #2051. 7½-HP 220/440 M.D.
1—C&M Dblg & Tacking Range, 86". M.D.
1—Toledo 180# Cloth Scale Mdl 9812B w/Tray.
1—Toledo 180# Cloth Scale Style 2900A w/Tray.
1—P&W 66½" Londonizing Mch, Ser 8622.
1—P&W 72x36" Semi-Decater, Ser 8131.
2—D&F 80" x 14-Roll S. A. Nappers, M.D.
1—D&F 72" x 14-Roll S. A. Nappers, M.D.
1—D&F 80" x 24-Roll D. A. Nappers, M.D.
1—D. Gessner 72" x 18-Roll D. A. Napper, M.D.

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78 FLETCHER ST. LOWELL, MASS.

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REBUILT MACHINERY FOR IMMEDIATE DELIVERY

1—Parks & Woolson 72" Decatizer, Nash Pump & Motor
1—V. V. Tenter Frame 60' x 60" S/S Clips
1—W. & J. Tenter Frame 30' x 96"
2—V. V. 3 Roll Silk Calenders M. D.
1—Hercules 48" Self Balancing Extractor open top side mounted Motor
1—V. V. 42" Self Balancing Extractor M. D.
1—Set of 21 Dry Cans 72" x 23"
1—54" Verduin Hydraulic Embosser
1—10 Color V. V. Ribbon Printing Machine
2—Van Vlaanderen Tubers 64"
3—Paterson Tubers 64"
2—Paterson Beamers 60"
1—Measuregraph 60" Variable Speed Tubing & Examining Machine
1—Hermas Measuring & Inspection Machine 58"
2—80 gal. copper Jacketed Kettles, with Agitators M. D.
1—Elliot & Hall Flat Folder 54"
Motors & Drives of Various Sizes

1—60" VERDUIN HYDRAULIC 40 TON CALENDER
6—60" VERDUIN S. S. JIGGS
1—4 COLOR TEXTILE PRINT MACHINE 68"
1—2 COLOR TEXTILE PRINT MACHINE 68"
1—72" PNEUMATIC PADDER, 2 NEW RUBBER ROLLS
1—54" HINNEKENS BOIL-OFF MACHINE

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DOMESTIC — Moe Blank — EXPORT
TEXTILE DYEING & FINISHING MACHINERY
523-525 E. 18th ST. — PATERSON 4, N. J.

FOR SALE

24—C & K (W3) Auto Worsted Looms 4 x 1 Box, 82" R.S. 25 Harness Head Motion, El. W.S. Motion 2 Beams, 1½ HP 550-V Motors

40—Draper K Rayon Looms, 60" Cloth, 20 Harness #7 Dobby Head, ¾ HP 550-V Motors

12—Whitin Schweiter Filling Winders MS, 18 Spdles Ea 1949-51

15—Sets Top Beam Brackets for 50" XD.

150—VR 3-shift Reset Pick Counters

200—Sets RIKA Electric Stop Motions complete with drop wires

1000—Fibre steel clad and wood mill box trucks—send your specs.

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BOUGHT AND SOLD
Warpers • Winders & Quillers • Looms

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3—FOSTER SKEIN TO CONE WINDERS
1—6 SPINDLE UNIVERSAL #8 TUBER
1—SCOTT MODEL Q TESTER 2000 LB. CAPACITY
1—16 SPINDLE SARGENT BALLING MACHINE

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Small Universal Rotoconers
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The above equipment in perfect condition and used but very little.

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adjustable from 33" to 60"
One still in crate, two slightly used. Bought for $360.00 each, fair offer accepted for one or three.
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6 HIGH SPEED SIPP REDRAWS
60 SP.-Disc Tensions
1947-Self Opening
Spindleless-4½"-6" Trav.

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12—Universal 250B Sizing Machines

50 C&K S-6 Looms

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1—Johnson 7 cam Slasher—$1200.00
4—Werner 50" S. S. Jiggs—late model
1—3 roll 68" Hydraulic 30 ton Calendar $4500.00
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40—Section Beams, Allen, NYLON, 28" x 54¼"
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4,000—19" x 36" Roving Cans
10—Bahnson Humidifiers H—550V & we have controls
4—Cone Creels, Cotton type-400 ends each
40—Saco & Pettee Cards 40"
3,000—Used Motors, 220-440-550V
3—LL B/C Knotting Machines—cheap

LOOMS & PARTS

100—Loom Beams 45½" x 22" head
100—Loom Beams 44" x 24" heads
20,000,000 Dropwires, all types
300 Dobbies—16, 20, 25 harness
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48—XD 46" cloth dobbys
200—C6 4 x 1 46", 50", 60" cloth
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LET'S FACE IT . . . the threat of war and the atom bomb has become a real part of our life—and will be with us for years. Fires, tornadoes and other disasters, too, may strike without warning.

The very lives of your employees are at stake. Yours is a grave responsibility. Consider what may happen.

When the emergency comes, everybody's going to need help at the same time. It may be hours before outside aid reaches you. The best chance of survival for your workers—and the fastest way to get back into production—is to know what to do and be ready to do it. To be unprepared is to gamble with human lives. Disaster may happen TOMORROW. Insist that these simple precautions are taken TODAY:

☐ **Call your local** Civil Defense Director. He'll help you set up a plan for your offices and plant—a plan that's safer, because it's entirely integrated with community Civil Defense action.

☐ **Check contents** and locations of first-aid kits. Be sure they're adequate and up to date. Here again, your CD Director can help—with advice on supplies needed for injuries due to blast, radiation, etc.

☐ **Encourage personnel** to attend Red Cross First Aid Training Courses.

☐ **Encourage your staff** and your community to have their homes prepared. Run ads in your plant paper, in local newspapers, over TV and radio, on bulletin boards. Your CD Director can show you ads that you can sponsor locally. Set the standard of preparedness in your plant city. There's no better way of building prestige and good employee relations—and no greater way of helping America.

Act now . . . check off these four simple points . . . before it's too late.

Index to ADVERTISERS Keyed by PRODUCT

A HELP TO YOU. This unique TEXTILE WORLD index, particularly if consulted for two or more consecutive issues, affords a valuable source of information on the latest products and services available to the Textile industry. Its comprehensiveness is the result of the fact that TEXTILE WORLD, having the largest circulation and highest readership of any textile-mill magazine in the world, carries the largest volume of advertising.

HOW TO USE. First, look in the table below and find the letter that designates the class of supply or service in which you are currently interested. Then consult in the index the page numbers that are followed by that letter.

A. Air Conditioning, Air Cleaning.
B. Building Construction and Maintenance, Paints, Yard Equipment, Water Supply
C. Chemicals and Dyestuffs
D. Cleaning Equipment
E. Dyeing, Finishing, and Cloth Room Equipment and Supplies
F. Electrical Equipment—Motors, Controls, Lighting, Etc.
G. Fibers, Yarns, Mills, Finishing Companies
H. Fluid Handling—Compressors, Pumps, Piping, Valves, Fittings
K. Instruments: Measuring, Metering, and Weighing Apparatus
L. Knitting-Mill Equipment and Supplies
M. Lubricants and Lubrication Equipment
N. Management Services—Factors, Consulting Engineers, Insurance, Personnel Facilities, Plant Sites, Etc.
O. Materials and components for Machinery and Equipment
P. Materials Handling, Packaging, and Shipping Facilities
Q. Power Generation and Transmission (see also Electrical Equipment)
R. Weaving and Warp Preparation Equipment and Supplies
T. Yarn-Production, Twisting and Winding Equipment and Supplies

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Adams, Inc.	243	T
Alemite Div., Stewart-Warner Corp.	136	M
Allen-Bradley Co.	3rd Cover	F
Allen Mfg. Co.	217	O
Allentown Bobbin Wks., Inc.	232	T
Allis-Chalmers	28-29	F, Q
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American Crayon Co.	244	E, L, R
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Armco Steel Corp.	62	O
Armour & Co.	229	C
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Arnold Hoffman & Co., Inc.	181	C
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Atlantic Steel Co.	220	O
Aurora Pump Div. The New York Air Brake Co.	196	H
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Bellows Co., The	57	H, O
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Binney & Smith Inc.	248	E, L, R
Boger & Crawford	175	G
Borden Co., The Chemical Div.	191	C
Borne, Scrymser Co.	195	C
Brainard Steel Div., Sharon Steel Corp.	17	P
Brush Electronics Co.	10	K

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WASTE CHUTE COVERS
WASTE CHUTES
SLIVER PANS
BACK TINS

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Gastonia, North Carolina

A sheet metal works serving textile mills

TEXTILE WORLD

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330 West 42nd St.
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Yarn Div.	44	G
Century Electric Co.	45	F
Cities Service Oil Co.	171	M
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Cleveland Worm & Gear Co.	25	Q
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Dow Chemical Co.	203	C
Draper Corporation	1	R
duPont de Nemours & Co., E. I. Dyestuff Dept.	49	C
Electrochemical Dept.	249	C
Plastic Div.	215-216	O
Durant Mfg. Co.	194	K
Economy Baler Co.	255	P
Eisenberg Fibers, Inc.	248	G
Emery Industries, Inc.	147	C
Eriez Mfg. Co.	187	T
Felters Co., The	170	L, RT
Fidelity Mach. Co., Inc.	63, 213	L, T
Finnell System, Inc.	36	D
Fletcher Works Inc.	230	E, RT
Foster Machine Co.	182	T
Foxboro Co., The	226	K
Franklin Process Co.	37	G
Gardner-Denver Co.	20	H
Gastonia Textile Sheet Metal Wks.	265	T
Gaylord Container Corp.	152	P
Geigy Chemical Corp., Dyestuff Div.	2	C
General Dyestuff Co.	139	C
Goodrich Chemical Co., B. F.	30	C
Goodyear Tire & Rubber Co.	9	P
Gubelin International Corp.	221	T
Gulf Oil Corp.	41	M
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Haskell-Dawes Mach. Co., Inc.	210	T
Heim Co., The	267	R
Herbert Products Inc.	242	T
Hermas Machine Co.	202	E
Herr Mfg. Co.	218	T
Hinde & Dauch	15	P
Hunter Machine Co., James	51	E
Huyck & Sons, F. C.	240	E
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Industrial Brush Co., Inc.	180	E
Industrial Rayon Corp.	58-59	G
Industrie-Werke-Karlsruhe	255	E
Interchemical Corp.	33	C
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Jenkins Sons Inc., M. W.	165	E
Jiffy Textile Marker Co.	250	E L R
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Keever Starch Co.	199	C
Kidde & Co., Inc., Walter	247	RT
Knitting Arts Exhibition	212	N
Kuljian Corp., The	248	N
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Leighton Machine Co.	205	L
Lewellen Mfg. Co.	200	Q
Link-Belt Co.	7	Q
Loper Co., Ralph E.	250	N
Main, Inc., Chas. T.	254	N
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Micro Switch Div.	237	F
Moisture Register Co.	204	K
Montgomery Co., The	246	G
Morton Salt Co.	193	C
Nash Co., J. M.	192	RT
National Aniline Div., Allied Chem. & Dye Corp.	53	C
National Starch Prods. Inc.	145	C
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N. Y. & N. J. Lubricant Co.	130	M
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Norgren Co., C. A.	268	M
Oakite Products, Inc.	177	C
Oronite Chemical Co.	233	C
Penick & Ford, Ltd., Inc.	196	C
Procter & Gamble	207	C
Proctor & Schwartz, Inc.	176	E T
Pure Oil Co.	23	M
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Raybestos-Mhanhattan Inc., Manhattan Rubber Div.	50	Q
Reeves Pulley Co.	174	Q
Refined Products So.	2nd Cover	C
Reiner Inc., Robert	32	L
Rhoads & Sons, J. E.	5	R
Ridge Tool Co.	168	H
Robbins & Myers, Inc.	189	H
Rohm & Haas Co.	148	C
Rollway Bearings Co., Inc.	219	O Q
Rome Soap Mfg. Co.	255	C
Rotherm Engineering Co.	202	H
Ryerson & Son Inc., J. T.	126	O
Saco-Lowell Shops	22, 132	T
Sayles Finishing Plants, Inc.	178	E
Simco Co., The	179	E L RT
Sinclair Refining Co.	48	M
Socony-Vacuum Oil Co., Inc.	12	M

HEIM . . . . *Unibal* SWEEP STICKS

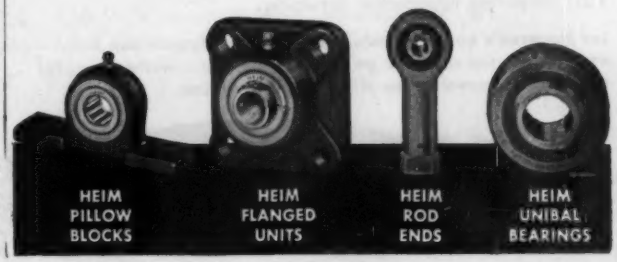
This Heim Unibal Spherical Bearing is assembled as an integral part of the sweepstick. It corrects any misalignment at the stud.

Looking at this cutaway view of the bearing, we see how the single ball oscillates in bronze bearing races to give longer life & smoother operation.

The body of the Heim sweepstick is made of heavy cotton fabric bonded in rubber. A long wearing, self aligning Unibal bearing protects the stick from wearing egg shaped at the stud. The result is smoother pick action and longer life.

Please write for list of sizes and prices — or a sample for testing if you would like.

THE **HEIM** COMPANY
FAIRFIELD, CONNECTICUT



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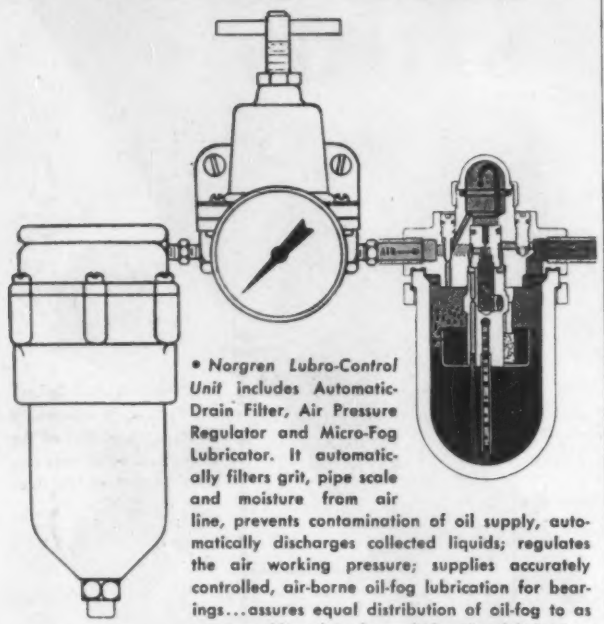
For

textile machinery bearing lubrication



• *Norgren Lubro-Control Unit* includes Automatic-Drain Filter, Air Pressure Regulator and Micro-Fog Lubricator. It automatically filters grit, pipe scale and moisture from air line, prevents contamination of oil supply, automatically discharges collected liquids; regulates the air working pressure; supplies accurately controlled, air-borne oil-fog lubrication for bearings...assures equal distribution of oil-fog to as many as 32 outlets, for multi-bearing lubrication.

Only NORGREN Micro-Fog has ALL these important features:

1. Automatic, continuous, uniform lubrication.
2. Visible oil supply...transparent bowl.
3. Visible oil feed...transparent sight feed dome. No guess work in adjusting oil feed.
4. Auxiliary air circuit control of oil feed assures greater reliability.
5. Constant oil level assures uniform rate of oil feed regardless of reservoir oil level.
6. Produces a very fine oil fog...Micro-Fog.
7. Micro-Fog can be transmitted through complex piping systems and delivered to many lubrication points.
8. Cools as it lubricates.
9. Prevents contaminants from entering bearing.
10. Reduces lubrication and maintenance costs.
11. Extends equipment life.
12. Simplifies lubrication servicing.

Let Norgren's quarter century of air-borne lubrication experience and research go to work for you...write, now, for complete information on Micro-Fog lubrication.

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Solvay Process Div., Allied Chem. & Dye Corp.	241	C, T
Sonoco Products Co.	64	E, T
Southern States Equip. Corp.	8	Q
Southern Shuttles Div. Steel Heddle Mfg. Co.	141	R
Staley Mfg. Co., A. E.	60	C
Standard Pressed Steel Co.	252	O
Stanley Works, The	183	K
Steel Heddle Mfg. Co.	141	R
Stellite American Corp.	251	T
Stephens-Adamson Mfg. Co.	173	O, Q
Sterling TNA • 5	211	E
Stop-Motion Devices Corp.	253	L
Stowe-Woodward, Inc.	151	E
Superior Combustion Industries, Inc.	254	Q
Supreme Knitting Mach. Co., Inc.	225	L
Swift & Co., Industrial Soap Dept.	167	C
Sylvania Elec. Prods. Inc.	239	F
Talcott, Inc., James	251	N
Taylor-Stiles Co.	206	T
Tennant Co., G. H.	188	D
Texnovo S. P. A.	244	R
Textile Machine Works	124	L
Thoma Co.	251	T
Toledo Pipe Threading Mach. Co.	234	H
Tompkins Bros. Co.	198	L
Torrington Co., The (Needles)	169	L
Trane Co.	42-43	A
Trent Tube Co.	31	H, O
Turbo Machine Co.	66	T
Unionmatex, Textilmachinen-Union, G. M. B. H.	19	E, RT
US Bobbin & Shuttle Co.	253	RT
U. S. Rubber Co., International Div.	179	G
Universal Winding Co.	24	T
Veeder-Root, Inc.	4th Cover	K
Versenes Chemical Co., Inc.	177	C
Victor Ring Traveler Co.	222	T
WAK Industries	254	K
Whitin Machine Works	14	T
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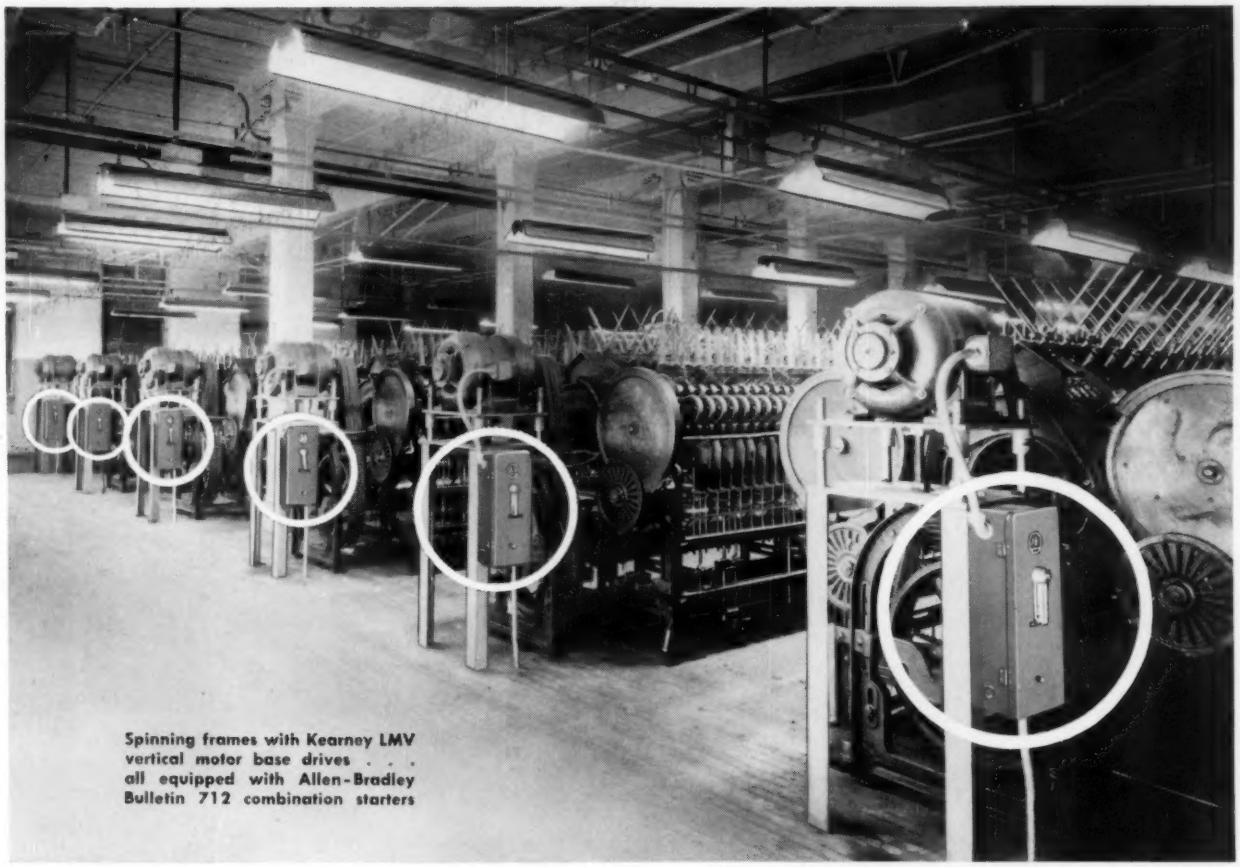

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Bulletin 712 combination starter. Bulletin 713 starter is furnished with circuit breaker.

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MAKE YOUR MILL SAFER

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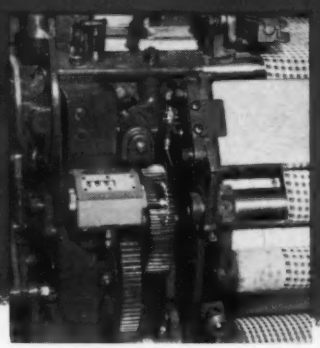
gives you AUTOMATIC UNIFORMITY all through your Mill . . . with New VEEDER-ROOT COUNTERS

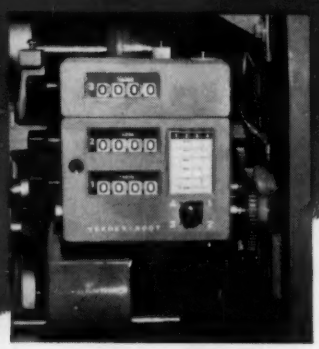
. . . on Looms | **. . . on Frames**

2-3-4 Pick Counter on Loom



Cut Meter on Loom

2-3-4 Hank Counter and Predetermining Counter on Drawing Frame



2-3-4 Yardage Counter and Predetermining Counter on Spinning Frame

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